Issue 107 • 24 November 1990 • 70p

NEW COMPUTER EXPRESS

WIN
A SAM COUPE
SEE PAGE 78

FIRST NEWS • FIRST REVIEWS • BEST BUYS • YOUR WEEKLY GUIDE

THIS WEEK

AMIGA
The first add-on CD-ROM drives arrive...**Plus**...How to get free games legally

ATARI
More Panther console plans leaked...**Plus**...ST Desktop video for only £229

PC
The IBM you can play Sega Megadrive games on **Plus**...4Mb floppy drives are on their way!

CPC
The best console game yet?

NINTENDO'S SHARP MOVE

SF1
SHARP SF1
SELECT START
SHARP

Is this the future of home entertainment?

Full details on page 7

PLUS
52 PAGES OF BARGAINS

GLOBAL NEWS
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CUSTOM MACS
CRACKING CODE
FAB FREE PD
TOP TECH TIPS
AMIGA PCs
MORE MEGA STEs
AND...EVEN MORE
WHOLE WIRED WONDERS!

SHOPPING EXPRESS
THE VALUE-PACKED GUIDE TO YOUR MACHINE AND MORE

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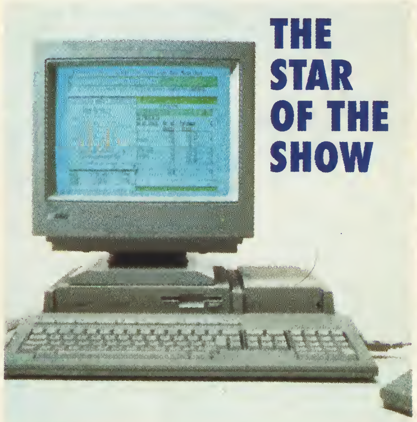
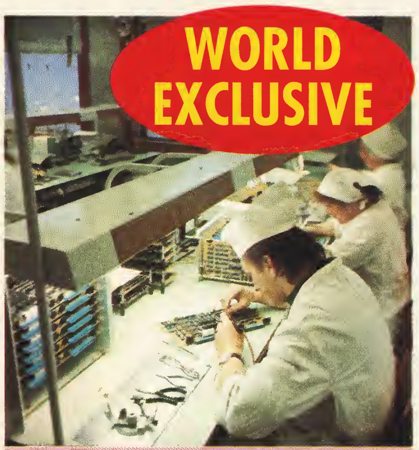


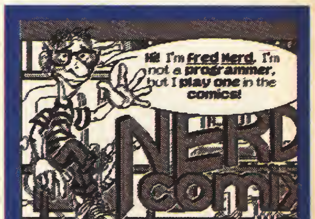
THE STAR OF THE SHOW

EXPRESS visits Las Vegas for Comdex Fall '90 ! First report pages 4 & 5



SNEAKED OUT OF RUSSIA

First ever pictures from inside a Soviet computer factory


Hi! I'm Fred Nerd. I'm not a programmer, but I play one in the comics!
NERD comix

A mag on your Mac

CD-ROM : the future of publishing?

FIRE & BRIMSTONE

The first playing guide to the hottest arcade adventure around

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frontend

edited by Colin Campbell

HE'S BACK!

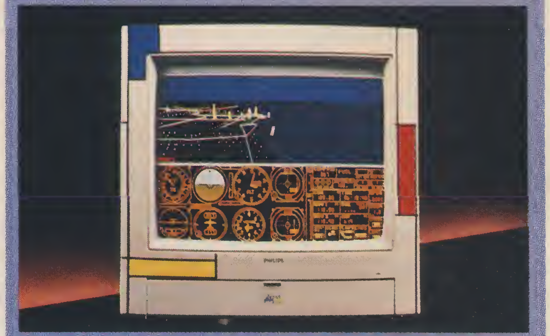
This Mark II Hunter-Killer's capacity for violence is legendary. *The Terminator* comes from the future to eliminate people and, it has to be said, he's exceptionally good at his job.

Gamers have already experienced his idea of a good time in the excellent Ocean version of the 1984 Arnold Schwarzenegger movie *Terminator*. Now, the Manchester software publisher is on the verge of tying up the licence to *Terminator II*.

The movie promises to set new standards in gratuitous violence with gory deaths planned for your enjoyment. But, of course, computer addicts are mostly interested in the film's cyberspace undertones and delicious electronic gadgetry.

Ocean's *Terminator II* should be with us by next September, and, given games players' delight in destruction, a Gallup number one is virtually guaranteed.

Art, man and machine



Have you ever heard of a Dutch artist called Piet Mondrian? Apparently, he was inspired by the spiritual ideas of theosophy and anthrophosy which stress a universal harmony of man, art, nature and machine beyond appearances.

Computer manufacturer Philips knows all about Mondrian, and has launched "limited edition" series of monitors adorned with his designs. The "Artist Series" features pretty versions of the CM8833/II colour CGA which is compatible with most home computers including PC, Amiga and ST.

The Mondrian paintings have formed the basis of many commercial designs from plastic aprons to Yves Saint Laurent clothing. But this is the first time his work has been adopted for technology.

Philips is manufacturing 2,000 limited edition monitors in the UK retailing at the normal price of £269.

Southend fire hits micro shop

A freak accident has caused millions of pounds of damage to a Southend computer shop.

On Saturday 3 November a fire broke out in waste paper bins in the yard of Superdrug in Queens Road. It appears that some of the burning materials got through ventilation shafts into the Lawrence Matthews computer shop. A large scale fire then destroyed parts of the building as well as computer stocks.

The firm had been a well respected dealer in artists materials and had recently started selling STs, Amigas and PCs as well as a large number of software titles. No-one at the shop was available for comment last week.

ST User virus farce

THE HOTTEST MAGAZINE ON THE STREET
ATARI ST USER
LOST IN SPACE ?
Get about the galaxy on your ST

A matter of considerable embarrassment has arisen within the ranks of computer magazine publisher Database/ Interactive. This month's issue of the worthy magazine *Atari ST User* features a coverdisk containing a most unwelcome virus.

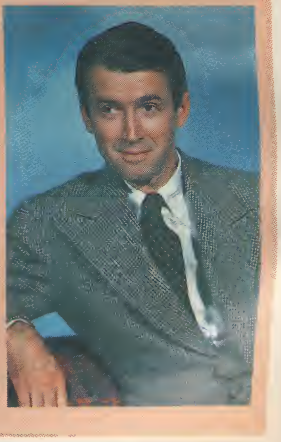
Readers of the publication, who are generally more than pleased with their free cover disk, were less than happy to find their computer infected with the Goblin virus. This little sucker is described by the magazine editor as "relatively harmless", although infected users have a slightly different perspective.

One reader claimed that it slowed his mouse pointer down, copied itself onto other disks and crashed his machine.

It is not known where the cock-upoccurred, but given that Goblin is new, it could have slipped through standard virus detection techniques.

If you've been infected, send your disk back to the friendly people at Database who will either furnish you with a new disk, or a virus busting package. It is understood that a virus killer will be included on the cover of next month's issue.

Back to school, James



James Stewart, one of Hollywood's most dearly cherished veterans, has dedicated himself to raising the level of computer literacy in America's deprived areas, thus giving disadvantaged kids a real chance of getting started.

The American Spirit Foundation, of which both he and Bob Hope are founding chairmen, has set an agenda for making every American computer literate by the end of the decade.

In a letter to Russel Cawthorne, who helped produce the *Teenage Mutant Ninja Turtles* film, he writes: "The American Spirit Foundation was conceived to bring about a renewed sense of love of country and the development of hope among our kids. A current project is the elimination of computer illiteracy by the year 2000.

"The only way we know to do this is to get computers and instructors to kids in the disadvantaged areas who have no access to equipment or instruction." He is asking big money film producers to donate towards computer equipped vans which would visit inner city areas.

Cawthorne said: "This call from an international star of such magnitude should have an impact on every educator throughout the world."

US link with Iraq military computers

Investigative reporters at trade mag *Computing* have dug up some fascinating facts concerning computer trade deals between the United States and international bad boy Iraq.

It seems that the multi-nation peace keeping force will face the staggering capabilities of the $1.5 billion American computers and electronics equipment sold should the Gulf crisis escalate into war.

The equipment was bought by Iraq primarily to aid research into such worthwhile projects as nuclear weaponry and poison gas development.

Computing managed to get its hands on US government documents detailing the sales to Iraq's interior ministry and military colleges. All the sales were approved by US state departments and US intelligence.

Britain is not above these regrettable deals. ICL sold a number of its most advanced mainframes to Iraq earlier this year.

New angle on 3D images

PIC FROM BYTE

People keep talking about creating three-dimensional images on computer screen. But Texas Instruments has actually managed to develop a laser based computer display that can be viewed from any angle.

The images are displayed on as a rotating 'corkscrew' of plastic, and, as in real-life perspective, the image changes depending on the viewer's position.

The corkscrew rotates at 600 revolutions per minute, and a laser is pointed at the object. With some clever software trickery all manner of images can be created.

Texas Instruments is calling its Omniview display a "real-time auto-stereoscopic multiplanner 3-D display system" which kind of explains everything.

The firm hopes to find business partners who can dream up some practical applications. ▨

Golden talk from Taiwanese

A new set of peripherals for the ST, Amiga and PC are arriving in the UK this week, courtesy of Taiwanese manufacturer Golden Image.

Optical mice, hand scanners, disk drives and RAM cards are among the goodies on offer. Golden Image claims to be a big name in the Far East, and reckons it can repeat that success on these shores. A spokesman offered: "We're kickin' ass".

Prices for optical mice start at a respectable £39 with mechanical options weighing in at £24. The ST and Amiga hand scanners both cost £199. Disk drives start at £59 for the Amiga compatible 3A-1 with PC versions starting at £99.

For more information call 081-518 7373. ▨

DOUBLE DOSE OF GASGOIGNE

This chirpy and talented young footballer is Tottenham Hotspur's Paul Gascoigne, a man who's exploits and antics have been detailed at some length in a variety of publications and television programmes.

Computer football fans may remember his appearance in the original *Gazza's Super Soccer*, launched last year to the kind of reception usually reserved for goalless draws at Shrewsbury. Now it's to make a re-appearance as part of a four-set footer compilation called *Soccer Mania*. *Microprose Soccer, Football Manager 2* and *Football Manager World Cup Edition* .

Gascoigne is also featured in a second game scheduled for pre-Christmas release. It's been cleverly called *Gazza!* and, according to those who've managed to get a sneak preview, it's worth a look.

Soccer Mania is to be launched across all major formats with prices starting at £14.99. *Gazza!* will enjoy similar multi-format treatment and should be available within the next few weeks. ▨

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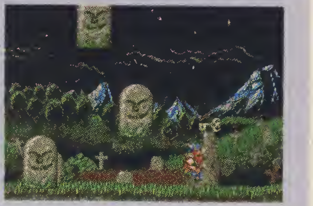

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Amiga makes digital creations

Digital Creations, a Amiga systems specialist from Rancho Cordovain California, unveiled DCTV, a video display digitising system for the Amiga, at Comdex Fall.

The system costs just $495. DCTV stands for Digital Composite Television and uses the Amiga's chip memory as its frame buffer. The software and hardware system creates a full colour screen image with the same resolution as conventional PAL/NTSC television. Images can then be manipulated and edited.

Like other video digitisation systems for the Amiga, DCTV uses the normal high-resolution display modes on the machine, but interprets the Amiga video signal to give, the company claims, a radically new image.

Using a video compression technique, the digital video signal from the Amiga's RGB port is converted into a full-colour composite video signal.

As Amiga users will be aware, a normal Amiga picture can only display images with a palette of up to 4,096 colours. DCTV removes the 4,096 colour barrier and allows the Amiga to create images with several million colours. Also, because DCTV uses frame memory, full-colour animations are possible.

When shown to *Express*, DCTV's system looked impressive. The company claims that the system is substantially cheaper, as well as being technically superior, to existing systems for the Amiga.

Contact: Digital Creations: tel: 0101-916-344-4825 Fax: 0101-916-635-0475

LAS VEGAS L

In a Whole Wired World Special, Steve Gold edits the highlights of the Comdex Fall Show from America's neon capital.

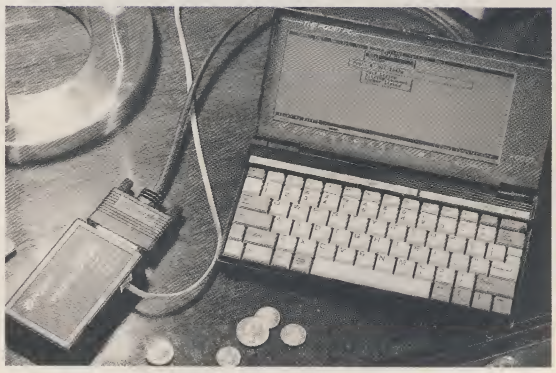
Comdex Fall '90 - the twelfth in the annual series – seemed to mark a turning point in the computer industry, both from leisure as well as business viewpoints.

While last year's show in Las Vegas was full of new technology products, with exhibitors exhorting show-goers to ditch their existing hardware and software in favour of leading-edge technology systems, this year's show took on a more practical note with computer users being encouraged to upgrade their existing kit. This meant that software producers came to the fore at the show, leaving some of the industry majors – several of whom had brought along some very expensive new toys – with few potential customers scanning the new products.

A sub-theme running through the show this year was one of 'you can take it with you.' I'm referring here to the idea of taking desktop computing out on the road. Suddenly, everyone is producing laptops – real laptops, I mean, tipping the scales at under the eight pound mark - that have the power and capability to do almost all that a desktop computer can do. Ironically, this feature was typed in a sleazy Las Vegas hotel room – costing $90 a night, and that's *expensive* for Las Vegas – on last year's technology, to wit, one Zenith MinisPort laptop.

The MinisPort epitomises the technology that laptop manufacturers are trying to shed – slow microprocessor, sluggish floppy disks and a reasonable screen. This time around, Comdex Fall has brought the industry an array of laptops, also tipping the scales at around six pounds, but 386SX-based, complete with a very readable display and a fast hard disk. Just don't ask the price.

Enough of scene-setting - on with the show report...



The Poqet/ WorldPort 2400 for The Poqet PC is a 2400 bps pocket sized modem which caused quite a stir at Comdex. With a retail price of only $345 the cassette-sized modem is the ideal tool for on the move pros filing reports from remote desert locations like Las Vegas. Although the Poqet still remains, at $2000, one of the most expensive palmtops, unlike the Portfolio it will run all MSDOS applications.

Globalink language

Globalink, a Fairfax, Virginia-based company, unveiled its Globalink Foreign Language Translation Systems (GTS) at Comdex. The software converts ASCII and word processing files from one language to another, using some highly sophisticated software algorithms.

The software runs on PCs with a minimum specification of 640K of RAM, DOS 3.1 or higher, and at least 10Mb of free hard disk space.

The package is very flexible when it comes to the variety of word processing files it accepts, although the files it produces (in the destination language) are pure ASCII.

French, German and Spanish packages are available that convert to and from English at $998 each. A Russian to English package is also available at $1,995. A Chinese-English dictionary edition is available at the price of $245, with a full-blown language translation version expected early in 1991.

The Chinese-English dictionary, though not a true language translation system, has some interesting facilities. It contains more than 7,000 Chinese characters and over 20,000 English words. As each word is typed in, so its Chinese equivalent appears on screen or in an output file. The reverse operation is also supported.

Contact: Caroline Hearn, Globalink: tel: 0101-703-273-5600. Fax: 0101-703-273-3866

Atari gets serious

While Commodore failed to get its act together with the Amiga at Comdex, preferring to opt for the 'show village' concept seen at UK shows – with, incidentally, little new to the Amiga market – Atari took a different tack.

The company rolled out an array of new machines, and effectively repositioned its existing range of machines in the US market place. Spearheading the new ranges, as expected, was the Mega STE system, which will replace the existing Mega ST series. Interestingly, the Mega STE is being marketed very much as a business machine, leaving the 520 STE to mop up the games market place. Humming along at 16MHz, courtesy of the 68000 microprocessor, the basic Mega STE comes with 2Mb of RAM expandable to 4Mb, and 16K of RAM cache.

According to Sam Tramiel, CEO of Atari, the machine is a major step for the company. "We designed the Mega STE for the serious business professional. You'll see the difference the minute you see the system's new case design, and you'll feel the difference the moment you turn the system on."

He continued: "The Mega STE fills the gap left by the Big Three small-system producers who have all but abandoned the small business professional.

• The Mega STE with stylish new monitor and TT style casing.

"The performance of the machine makes it the ideal solution for desktop publishing and graphics. A VME slot is provided for expansion cards, such as Ethernet; and two high-speed ports make it compatible with LAN environments. And, of course, the price makes it the system of choice for any business concerned with bottomline costs," he added.

As supplied with a single 3.5-inch floppy drive, the Mega STE retails for $1,799-95 in the US and is available now. Plans call for Atari US to release versions with 20Mb and 40Mb hard disks at a later stage.

Also as expected, the Mega STE features the enhanced graphics user interface seen on the TT030 series, which was also released at Comdex Fall. The interface features multiple icon types, a file search capability and increased application flexibility. According to Atari, users will find they can manipulate their files more quickly and easily than ever before.

Meanwhile, on the Portfolio front, Atari US has neatly split the marketing of this pocket PC. Low-end users are being offered a no-frills $299-95 version which is the same as sold in the UK for just under the £200 mark.

The basic Portfolio is billed as the Superorganiser on the US market, leaving the Portfolio name to be applied to the $500 kit which includes the PC card drive and a 128K RAM card. UK users of the Portfolio will be interested to hear that Atari US has launched a new PowerBasic compiler application development card for the machine.

Published by Spectra Publishing of Sunnyvale in California, the compiler is a compact version of the firm's popular PowerBasic compiler, which was previously known as Borland's TurboBasic, before Borland sold the rights to Spectra.

According to Atari, the compiler card allows Basic programs to run in machine code at speeds of up to 100 times that of standard Basic. The card ships at the end of the year for $99.95. Contact: Atari US: tel: 0101-408-296-3600. Spectra: tel: 0101-408-730-9589

SLOWDOWN

900
EVEREX
EVEREX
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PRINCETON
cordata
unisys
DataPerfect
Library

Support for Portfolio

• *The Portfolio now has a 20Mb HD*

Xoterix is the unusual name of a small, but growing company based in West Hills, California. The company is a producer of third-party addons for the Atari Portfolio, at impressive prices. A 128K RAM card for the Portfolio, costs $169, while a 512K card costs $299.

Flagship to the company's product range is a 20Mb hard disk module that fits under the Portfolio, adding 0.75 inches to its height. Pricing in at $899, the unit also includes room for up to 512K of RAM, and optional serial and parallel port modules, plus a rechargable battery pack.

Interestingly, the hard drive unit's RAM expansion is mapped as drive D on the Portfolio, so that users can continue to use their existing drive C RAM cards as before. It will be available from next March.

For those Portfolio users with modems, Xoterix is producing a Terminal Plus comms package for $79.99. Available immediately, the package supports all the usual terminal emulations, as well as the Hayes AT command set and ASCII and X-Modem file transfer protocols.

Upcoming from the company is a battery-powered modem for the Portfolio, as well as a bar code reader. Several software packages are in the planning stage, according to Mark Henderson of the company, who told *Express* that his main aim is to produce a wide range of peripherals for the Portfolio, and at prices to keep users happy.

Incidentally, Xoterix provides support services for its products via the Compuserve on-line systems ' Aportfolio' forum.Contact: Xoterix: tel 0101-818-888-7390.

New media graphics

New Media Graphics, a new company from Billerica in Massachusetts, unveiled a $695 hardware system for PCs that supports a multimedia environment that Amiga users have had to pay several thousand pounds for and PC users have had to previously shell out nearly five figures .

Why so cheap? According to Martin Duhms, president of thecompany, the full length PC card is the result of a joint multimedia project with Chips and Technologies, the well-known chip producer from California.

Super Videowindows (the name of the multi-media system) combines a *Windows* environment to show data on-screen from a variety of sources. The system allows PC users to play full motion video and stereo audio from any TV or similar video source, placed anywhere on the computer screen, alongside conventional data.

Facilities include scale, crop, zoom, pan, scroll, freeze, colour, saturation, brightness, contrast and graphics plus text overlays. Individual frames from any video source can be grabbed and saved to disk.

In use, the system is impressive, looking very similar to a demonstration on the Commodore Amiga I saw three years ago. The system for the Amiga topped the £5,000 mark then, so *Super Videowindows* is most impressive.

Alongside the hardware – which supports a variety of complimentary packages, including HP's *New Wave* and Microsoft's *Windows 3.0* graphical front ends – are a range of add-in boards, the most interesting of which is the Super TV tuner board at $395. This baby, when plugged into a PC alongside the *Super Videowindows* board, allows any NTSC (US/Japanese) or PAL (UK/European) TV signal to be seen and heard very clearly in a resizable box on-screen.

Images can be captured and saved to disk for later use with the software or with other packages. The only slight snag is that saved images occupy several hundred K of disk space. NMG has the answer – a data compression board with a compression capability, of 200:1. Apparently this will allow data to be saved to disk, or even sent over modems or networks for onward display. Contact: New Media Graphics: tel: 0101-508-663-0666.

Quicksoft package gets lite

Quicksoft, the producers of PC-Write, the renowned PC wordprocessor, have begun shipping an updated version of their *PCWrite Lite* package.

Version 1.02, unveiled at Comdex Fall last week, has been updated to include multi-language spelling checkers. A Russian spell-checker is now supplied as standard with the English/American version of *PC Write Lite 1.02*. Another key feature of the new version (the first edition began shipping last month) is support for EGA/VGA foreign characters. This means that, when a foreign language character set is selected, the screen fonts are adjusted accordingly, so you actually see the non-English characters on-screen.

In common with the original *PC Write, PC Write Lite* is shareware, requiring users to pay $79, for which users get the appropriate disks, a 192 page user's guide and technical support for a year, including a free quarterly newsletter.

Existing users of *PC Write* can upgrade to the Lite version for just $49. The package fits on a single disk and can run in as little as 256K of free RAM, although 384K is recommended when the spelling checker is used.

Three foreign language spellcheckers for *PC Write Lite* were unveiled at Comdex - French and German at $19 each, and Russian at $29.

Contact: Quicksoft: tel: 0101-206-282-0452 ▩

Geoworks unveils Geos Ensemble

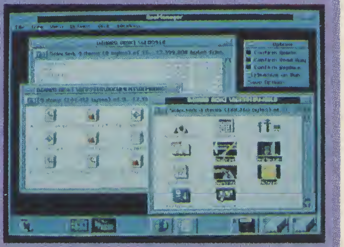
While the rest of the IBM PC world moves on to graphical user interface (GUI) intensive products running on higher-powered PCs, Geoworks – formerly known as Berkeley Softworks – is catering for all PC users.

At Comdex Fall, the company announced it is now shipping *Ensemble*, its first product for the IBM PC and compatibles arena. At the same time, the Berkeley, California-based company announced bundling deals with three major US manufacturers – Everex, Laser and US Integrated Technologies.

Geoworks Ensemble is a desktop/GUI-style suite of software designed to run on almost any PC. Centrepiece to the $199.99 package is PC-Geos – short for graphical environment operating system –a multi-tasking graphics front-end that leads into seven integrated software modules.

"Our goal was to deliver the benefits of high-performance technology found on expensive workstations to the full range of PCs in use today," explained Brian Dougherty, Geoworks chief executive officer. "We spent three years of research and development creating PC-Geos, the foundation for Geoworks Ensemble".

• *Geoworks Ensemble - looks familiar?*



• *Geomanager - GUI file-handling for the PC*

Key features of *PC-Geos* include an object oriented programming (OOP) language, a Postscript-style single imaging model for a WYSIWYG display, and a high-performance virtual memory management system. The GUI front end is also compliant with OSF/Motif, the industry-standard user interface developed by the Open Software Foundation.

The seven modules which can be accessed from *PC-Geos* include: *Geowrite*, a word processor; *Geodraw*, a graphics drawing package; *Geomanager*, a DOS-replacement file manager; *Geodex*, an address indexer; *Geoplanner*, an appointment/scheduler; and *Geocomm*, a communications package.

Users of the Commodore 64 may feel a touch of deja vu about Geos. This is hardly surprising since the package was released several years on the C64 for disk users, although it was rarely seen in the UK. *PC-Geos Ensemble* runs on an PC, from 8088-based on up, equipped with 512K of RAM, a hard disk, mouse and CGA graphics capability or better.

Contact: Geoworks - Tel: 0101-415-644-0883) ▩

• *Megastor: novel storage*

Portable storage

Megastor is to launch a range of portable external hard disk drives which plug easily into any PC with a parallel printer port.

The Megastor range hard disks can be installed in minutes without dismantling the computers. They are also extremely portable, so confidential data can be stored by locking it away when not in use, or transported in a suitcase. The company reckons this makes them the ideal way of upgrading any IBM compatible laptop not designed to be fitted with an internal disk.

The Megastors are available in versions ranging from 44 to 211Mb. Up to three Megastors of 200Mb each may be added to a system with sufficient parallel ports. They all contain a Seagate Technology 3.5-inch drive and are totally DOS compatible.

All Megastors, which retail from £349 for the 44Mb version, come with cables, installation software, manual and power supply. ▨

Amiga games going free

As of this week, leading 16-bit retail and mail order outfit Silica will be giving away over £200 worth of software to everyone who purchases an Amiga 500 from the firm.

The Christmas deal offers buyers a great chance to stock up on loads of free games – but it's only available through Silica's three retail outlets, and via the well known mail-order operation.

Buyers will not only be given Commodore's 'in-the-box' Screen Gems bundle, but also a selection of games picked up by Silica. They include *Onslaught*, *Live and Let Die*, *Skweek*, *Rick Dangerous*, *Trivial Pursuit*, *Rock 'n' Roll*, *Asterix*, *Driving Force*, *Chessmaster 2150* and *Pipemania* all for £399.

This is on top of Commodore's own bundle which features *Shadow of the Beast II*, *Nightbreed*, *Back to the Future II*, *Days of Thunder* and *Deluxe Paint II*.

The offer is likely to displease games software publishers who hate to see bundles featuring large numbers of games.

Silica can be found on Tottenham Court Road, inside Selfridges' Central London store, or at the main centre in Sidcup. You can order by mail on 081-309 1111. ▨

Sega hits for hire

Following successful trials in three London stores, the Blockbuster Video chain aims to offer Sega software for rental in all its stores by this time next year.

The chain is renting out games for both the Master System and Megadrive at £3 for three evenings.

Trials carried out by the company at stores in Slough, Hayes and Walworth Road over the past few months, renting out both Sega and Nintendo games, showed that the Sega was the popular choice with customers.

But while the company is concentrating on promoting the Sega in other stores, it has not shelved plans for the Nintendo which will continue to be hired in certain stores.

"We aim to give the customers what they want, and the Sega seems to be it," reckons Blockbuster's Mike Oakley.

The company will also be selling Sega consoles and software. The first new shops to open Sega departments are in Sidcup, Erdington (Birmingham) and Edgware while on December 15 stores in Luton, Leicester, Mile End and Southend will be added to this list. ▨

AST launches upgradeable notebook

US company AST has entered the portable computing market with what it reckons are the first upgradeable notebook PCs.

The Premium Exec was launched at Comdex in the US last week, and should be available in the UK early next year.

There will be two versions, the Premium Exec 386SX/20 with 2Mb of memory and the 12MHz Premium Exec 286/12 with 1Mb of memory and can be upgraded to the 386SX. Both are expandable to 8Mb, have VGA and 3.5-inch, 1.44 Mb diskette drives. They weigh about 2.8kg and have a battery life of over three hours.

No UK prices have yet been announced, but US prices start at $2,995 for the 386SX and $2,495 for the 286, with the ugradeable option at $499. ▨

DROP
START
50 80 110 140 170 200 230

• *Stunt Car Racer: another soon*

Stunt sequel set for summer

Everyone driven crazy by Microprose's stunning hit *Stunt Car Racer* a couple of years back should be delighted to learn that follow is due to burn rubber next summer.

The original game was a fast moving driving simulation where there was little room for error. One false move and the car plumetted hundreds of feet - the inspiration for a couple of car advertisements around at the moment, perhaps.

Development is reaching its final stages at the moment on the sequel, which the company claims has some surprising variations on the original theme. ▨

New console will go beyond ST technology

ATARI REVISES PANTHER PLANS

Atari has scrapped plans to launch an ST based games console, and has opted instead for developing technology designed to over-shadow both the Commodore Amiga and Sega Megadrive.

The so-called ST console has been on the agenda for the past two years (*Express* passim) but Atari now feels such a machine would be behind the times.

Developers in Cambridge and Dallas are working on a new machine – suspected to be based on RISC technology – which will be launched next September. The firm has decided to call its console Panther – the code name for the apparently ill-fated ST games machine.

Atari's UK boss Bob Gleadow told *Express*: "I do accept that a games console from Atari would have to be superior to both the Sega Megadrive and the Amiga." He decided not to comment on technical specifications, but said that ST compatibility is no longer a priority.

Gleadow insists that Atari has a number of development options any one of which could turn out to be the long-awaited top-end console. But at least nine British software developers are aware of the firm's plans and have already begun software development for the machine.

• *Gleadow: waiting on top-end games console*

The British operation is being orchestrated from Cambridge, while in the US, software publishers are in contact with developers in Dallas.

Gleadow hinted that a prototype would be shown at the Las Vegas Consumer Electronics Show in January, but said that only trusted industry partners would be allowed into Atari's stand to inspect the machine.

The firm should have launched a games machine a year ago, but the disastrous affair with US retail chain Federated – which cost Atari millions of dollars – coupled with the discovery of the handheld Atari Lynx, have caused delays.

President Sam Tramiel has already stated in an interview with trade mag CTW that Atari's console would be a "16-bit super-graphics console based on brand new technology."

It is understood that a price tag of £140 has been provisionally agreed. Atari suspects that the Sega Megadrive, which currently retails at £180, will be cut to about £150 by this time next year.

Atari is well aware of the fact that it must either involve itself in the mushrooming console boom, or face a shrinking presence in home entertainment. The firm's success was originaly built on primitive games consoles launched at the beginning of the 1980s, and many people still associate the Atari name with dedicated games machines. ▨

Games and TV giants team up for all–in–one solution

SHARP'S NEXT GENERATION

Nintendo, the seemingly unstoppable console manufacturer, and Sharp, one of the world's leading suppliers of television sets, have teamed up to produce an original angle on interactive home entertainment.

As of next month Japanese buyers will be offered a 21-inch colour TV set featuring a built-in Super Famicom games system. Buyers of the kit will be able to play a Nintendo game by slipping a cartridge into a slot on the upper body of the TV set. A control pad is connected to the TV.

It's possible to pause your game while something good is on the telly and then quickly go back when the ads come on. With 'Picture in Picture' capabilities you could be really multimedia, by playing games and watching TV at the same time.

The Sharp launch co-incides with that of the 16-bit Super Famicom (Family Computer) itself in Japan. That costs the equivalent of £100, while the TV version retails at about £600.

Sharp, which secured Nintendo's technology through a licensing agreement, hopes to sell about 10,000 TV games sets every month. Sales of the Super Famicom are expected to reach one million within a few months.

Games to be launched for the system include familar hits such as *Populous*, *Sim City*, *Shadow of the Beast II* and *Dungeon Master*, as well as new titles like Capcom's 'beat-'em-up' *Final Fight*, sideways scrolling 'shoot-'em-up' *Gradius III*, *Super Mario World* and racing game *F-Zero*.

The Super Famicom has been described as the most complete games system on the market, incorporating features hitherto only seen in arcade machines.

The CPU incorporates a customised 16-bit DMA (Direct Memory Access) circuit to speed up graphics and sound functions. It comes with 64K of Video RAM and runs at auto-changeable clock speeds of 1.79MHz, 2.68MHz and 3.58MHz.

It can display 128 colours on screen from a palette of 32,768. One of its most innovative features is the ability to handle objects in various sizes and scale them up or down in real-time.

• *Famicom inside a TV: Sharp's clever telly*

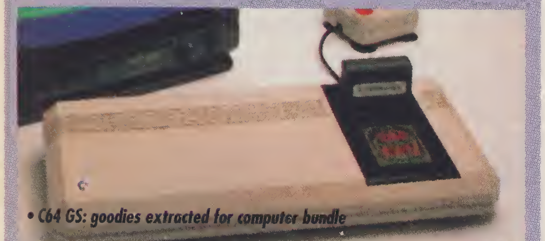
This means that a figure moving towards you becomes larger, in a very life-like way. The computer handles the scaling-up without the figure having to be re-drawn. This makes for excellent three dimensional capabilities.

Audio is handled through 8-channel stereo sound with a 16-bit PCM (Pulse Control Modulation) chip.

It also features a 28-pin edge connector suggesting that a CD-ROM drive is in the offing. Nintendo also plans to launch an add-on modem for home shopping, as well as a keyboard.

A UK launch has been pencilled in for September 1991 with a retail tag of £200. Sharp has yet to decide whether it will offer the Famicom television in Europe. ■

Cartridge pack for C64



• *C64 GS: goodies extracted for computer bundle*

Commodore is to offer C64 owners a chance to get involved in cartridge gaming, with a new package of games and joystick.

The pack feayures all the goodies bundled in with Commodore's C64 Games System console, and costs £29. Buyers will be offered four cartridges – puzzle game Klax from Domark, Fiendish Freddies Big Top Of Fun from Mindscape, System 3's cartoon adventure Flimbo's Quest and old classic International Soccer. Commodore's badged joystick is also included.

All C64 computers come with a cartridge port as standard, indeed, International Soccer was originally launched on cartridge only format. Its manufacturer is keen to promote production of cartridges in favour of piracy prone tapes. The C64 tape loader has caused Commodore all sorts of technical problems, many of which have not been resolved.

The original Games System bundle (including console) costs £99. ■

ELSPA attacks back-ups

Games software publishing organisation ELSPA is taking tough steps to clamp down on back-up utilities which, it claims, encourage piracy.

But while software publishers have rallied in support, appeals to magazine publishers have not been met with the same enthusiasm.

ELSPA has asked software companies to start placing warnings on the disks which state: "It is illegal to back-up or copy the software contained on this disk." Requests to magazine publishers to pull adverts for these products have not been met in the same spirit. Roger Bennett, ELSPA secretary, admits: "We have not received any support in writing yet which is obviously what we are waiting for."

The problem ELSPA faces is that the devices are not illegal and as long as an extract of the 1988 Copyright Act concerning piracy is in the advertisements, there is nothing illegal about magazines running them.

Bennett said in the trade press last week that if any magazine did carry advertisements for back-up devices aimed at the entertainment user, "They are in breach of copyright and will be pursued as a pirate."

This statement is a bit premature, as it is based on Article 5 of a software copyright law which has not yet been passed by the European Government.

Datel manufactures the popular *Synchro Express II* back-up device. A spokesman claimed: "None of our stuff infringes copyright anyway, it's just for PD copying really."

Many magazines believe that ELSPA should be tackling the problem at its root by trying to bring legal proceedings against those companies which infringe the law. ■

Soviets are ST mad

The ST is set to take Russia by storm, but unlucky Soviet youngsters won't be playing *Xenon II*. The computers are going to be used to train them up for computer related careers.

Atari Germany has won a contract to supply the Youth Computer centre in the USSR with $65,000 worth of computer, software and peripherals. The centre offers a free education teaching young Russians about using computers.

Two thirds of the shipment will be Atari ST systems, the rest being PCs and other peripheral hardware.

The company reckons it won the contract in the face of tough opposition from Asian computer companies because of the flexibility and versatility of the range. "The Atari ST is the ideal computer for this kind of training," said an Atari spokesman. ■

Caring advice from Dr PC

A computerised Freud that prompts you to talk about your childhood might seem like something out of a Woody Allen nightmare, but the prototype of just such a program was on show in London this month.

Professor Kenneth Colby of the University of California School of Medicine displayed the £100 program for the PC in front of an audience of psychiatric experts.

Patients too shy to face a real psychiatrist type their angst-ridden confessions into the keyboard and the computer replies with sympathetic on-screen questions encouraging the patient to talk through their problems.

When told that a user thought everybody at work hated him it replied: "It must be agonising to feel so worthless day after day."

The program describes itself as a personoid, "which is like a person only in that I can converse a bit," but refuses to speak any further about itself, eager to carry on probing into your own problems.

Not all the experts present were convinced, though. Dr Cosmo Hallstrom, a consultant psychiatrist at Charing Cross hospital, who tested the program said, "I never got anywhere with it. It didn't seem to understand what I was saying and it went off at obscure tangents. I think it needs to be better developed and more carefully thought out."

Perhaps it ought to see a psychiatrist about the problem it has relating to people. ■

NIBBLES

- TopLevel Computing is launching two low-priced word processors. Version Two of the company's TopCopy Plus, aimed at small and medium sized businesses, begins shipping this week retailing at £99. The 1991 edition of TopCopy Professional is due next February. Featuring a save as you type function, it will cost £199 . The company can be contacted on 0453 753955.
- Texas Instruments is to follow up the recently introduced Travelmate 2000 laptop computer with a 386SX model. The machine was introduced at the Comdex Show in the US last week and should be available in the UK early next year.
- Digital Integration has high expectations for its latest release, *AFT 2*, in the US. The game, described by the company as "an interactive strategy game with a combat fighter theme," will be distributed there by Cinemaware under the title *Air Strike USA*.
- Olivetti is to shed 7,000 of its 55,000 workers worldwide in response to the downturn in the international computer market.
- Cheetah aims to start a whole new trend in novelty joysticks with the Ninja Tortoise due for release in January.

With thinly disguised parallels to certain mutant heroes on the big screen this Christmas, the company obviously hopes the joystick will appeal to kids. It is green and ergonomically shaped with a shell that acts as the directional movement control while the eyes act as fire buttons. The Ninja Tortoise is expected to retail at under £10.

- Annual revenue from the sale of micro, mini and mainframe computers will grow from $300 billion this year to nearly $700 billion by the year 2000, according to a report by major US consulting and research company The Gartner Group. Hot products for the next decade, the report predicts, include palm-top computers, wireless phones, image management and speech recognition. Biggest shock is the suggestion that Fujitsu will be threatening IBM as the world leader by the beginning of the next century.
- Atari has announced an increase in sales of 9.5 per cent to $89.1 million for the third quarter of 1990 as compared to $81.4 million for the same period last year. Atari President Sam Tramiel said, " The Atari TT030 system based on the Motorola 68030 microprocessor which started shipping in the third quarter has been well received. In addition the company is shipping nine software titles for the Lynx."

By christmas the company reckons to have 17 Lynx titles available.

Cops computer shortfall

The Government has been forced to step in with a 50 per cent computer budget increase for the police force after an estimated £80 million shortfall in funding has lead to a string of suspended and cancelled projects.

Home Office Secretary David Waddington announced last week that just £60 million would be made available to forces, most of which would go towards computers.

A report by the Police Federation in September highlighted the problem. Arthur Isaac, director of McDonnell Douglas' central government and police unit, said: "There have been a number of forces which have deferred or even cancelled projects. Others have continued with projects without having any confirmation of further funding."

But some police forces are still worried that this may not be enough. For example, Greater Manchester Police was forced to postpone a £4.5 million systems development earlier this year. Although the news of extra funding is welcome, the force is not confident that it will enable the project to be resumed.

"Police forces have submitted capital expenditure programs to the Home Office for ratification. But even if the program itself is ratified, only 51 per cent of the funding will come from central government. The rest still has to be found locally," said a GMP spokesman.

• *Scotland Yard: more money for computers*

'Strategic decision' to scrap software

END OF A LINE FOR AMSTRAD

Amstrad is pulling out of the software market, after six years of offering home and business users affordable packages.

The decision appears to have been based on the firm's growing apathy toward its dwindling software activities, as well as a more competitive attitude among dedicated software publishers.

Amstrad's software publishing operations, already restricted to the PC market, have been scaled down during the past few months. The move has not been well publicised, Amstrad is calling this as a simple "strategic" decision.

"We've done our job. When we started we needed to support our machines with cheap software. Over the past few years economies of scale have enabled other software publishers to bring down their prices," said an Amstrad spokesman.

The company first dabbled in the software in 1984 with leisure software for its first computer the CPC 464. The shift to PC products came with the introduction of the PCW8256 and the PC1512 with the philosophy that people who bought a low cost machine would also want low cost software.

But Amstrad seemed to lose interest in this area when it did not replace Software Sales Manager Mike Mordecai at the end of 1988. When his assistant Caroline French left also left a couple of months ago, the fate of the software wing was sealed.

Amstrad's official line is that the move leaves it free to concentrate on hardware.

Red jet sim for 16-Bit

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• **MiG-29 Fulcrum:** ***aerial action.***

Former 8-bit favourite *Soviet MiG-29 Fulcrum* has been launched onto the 16-bit market with enhanced graphics and expanded gameplay.

Publisher Codemasters reckons the game is the fastest 3D flight simulation available. The company has spent a year re-writing the original 8-bit version for the ST and Amiga.

***Soviet MiG-29 Fulcrum* is an aerial battle confronting the player with stealth planes, warships and ground vehicles.**

Available now for £6.99.

• This is the new robust, sealed 101 - key PC compatible, Hall-effect keyboard from Honeywell. Designed for industrial applications and environments, the keyboard can withstand a great deal of moisture, dust, grime and other nasty substances seeping between its keys. Available now for around £250.

As easy as aPC

Software Toolworks has upgraded its Toolworks DOS Tutor package so that the complete PC greenhorn need never quake at the sight of the C:>> prompt again.

Toolworks is a complete interactive learning program for the inexperienced PC user. The company reckons the new version will teach you everything you would ever need to know about your machine including communications, networking, tape and optical drives, windows, mice, desktop publishing and EGA/VGA graphic cards.

The program is written in easy to understand language and is easy to use, with help available at the touch of a button. Users are guided through the lessons by the program itself using visual representations of DOS commands and functions.

Toolworks
DOS Tutor
Toolworks
DOS Tutor

• ***DOS Tutor: get to grips with your PC***

The new version of *Toolworks* will be released at the beginning of December for £29. If you have the old version you can pick it up for just £7.99 if you send the original disk to the company. Software Toolworks are on 0444 86761.

Exclusive first picture of Sega's unique PC

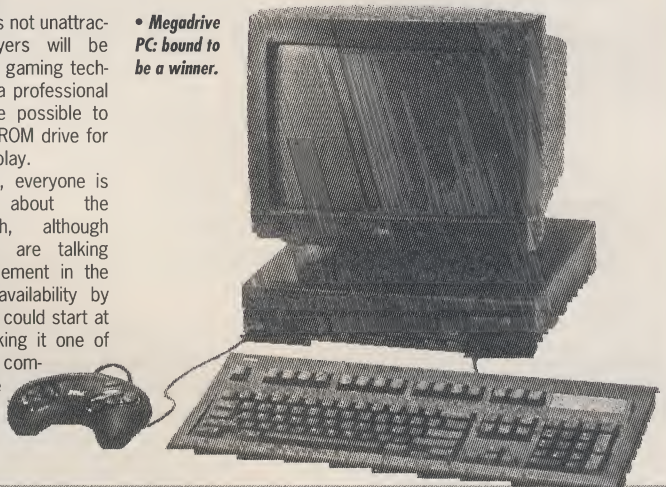
INTRODUCING MEGADRIVE PC

It's another one of those fabulous ideas which the Japanese are so infuriatingly good at coming up with. As we've mentioned before, Sega and IBM Japan have teamed up to produce a 16-bit Megadrive compatible PC (or even an IBM compatible Megadrive).

This is the first published picture of the still unnamed machine in Europe, and it looks very nice indeed. It's an exceptionally sleek black option with delicious curvaceous lines. You'll note the famous Megadrive joypad, the 3.5-inch disk drive, Megadrive cartridge port and 14-inch colour monitor.

The idea, and it's not unattractive, is that buyers will be offered the best in gaming technology as well as a professional PC. It will also be possible to plug in Sega's CD-ROM drive for extra quality gameplay.

Here in the UK, everyone is keeping quiet about the machine's launch, although informed sources are talking about an announcement in the spring, with full availability by September. Prices could start at around £799, making it one of the most attractive computers on the market. ▩



• Megadrive PC: bound to be a winner.

Tragedy strikes Apple conference

French police are investigating the death of a senior Apple employee at the company's recent European conference in Cannes.

Apple UK's service administrator Frank James was drowned in a hotel swimming pool following a Friday night out on the town.

Some 200 Apple staff were staying at the hotel on the night of the tragedy, 12 of whom, who were drinking at the bar on the night of Friday 9 November, have been interviewed by the police. None were present at the time of the incident.

Police suspect James may have been pushed into the outdoor pool as a prank. A spokesman for Apple expressed deep regret at the death and said that James had been a very popular Apple employee. ▩

Third Coast ad rapped

A Third Coast Technologies' advertisement claiming that its Hypercache ST accelerator card could double the speed of any application has been criticised by the Advertising Standards Authority.

A complaint was made to the influential ASA that the product could do no such thing. Hypercache was also said to be "100 per cent compatible with all applications" – a complainant pointed out that this was not so.

The ASA criticised Third Coast for its inability to substantiate these claims. The advertising has now been amended. ▩

Good riddance to wobbly lines

• Testcard: no sign of a girl with a blackboard.

If you think your monitor is turning circles into eggs or columns seem to be an inch further to the left at the bottom of the screen than the top, then *Testcard* is the program you've been looking for.

Testcard is a simple and cheap way of checking the alignment of PC computer monitors from Black Star. It reproduces all the standard patterns and colours used by professional service engineers including focus, dots, verticle and horizontal lines, grating, shading, checkerboards, circles and something intriguingly called multiburst. There is a choice of 16 foreground colours and eight background colours.

Available on both 3.5 and 5.25-inch floppy disks, *Testcard* comes with a comprehensive manual allowing any computer user to quickly determine whether their monitor is, in fact, working properly. It retails for £29. ▩

Sweeter studies

Kudlian Soft has launched a package of educational software called Data Sweet, written specifically to meet National Curriculum guidelines on data handling.

Available for the Archimedes, the machine most used in schools, Data Sweet is a RISC OS desktop package designed to develop children's data handling skills. Each application can be used progressively, from basic graph drawing to full database searches and spreadsheet calculations.

Applications include DataFind, a sophisticated database DataCard, a card index program and DataCalc, an introduction to using spreadsheets. Data files created in any application can be imported into a central graph drawing program, DataPlot.

The basic stand alone package costs £30. For further details call 0705 378266. ▩

• Hoskyns Insight, the PC manufacturing arm of Hoskyns Group, has hurled itself into the competitive cut throat world of sports sponsorship.

The company has joined the likes of Commodore, Philips and NEC in sponsoring a foot ball team. But Hoskyns hasn't bothered with such lightweights as Chelsea, PSV Eindhoven or Everton – it has decided on Midlands League under-13 aces Worcester Colts (above).

Marketing manager Penny Jacey enthused: "We know how to back winners." ▩

THE WEEK IN VIEW

Express' **first Editor, Peter Worlock, argues that Apple's new low-cost range will only succeed if the company changes its dealership policies.**

You can imagine the same conversation happening a thousand times between now and Christmas. The would-be Mac owner goes into Dixons or Comet and enquires about these new, cheap Macintoshes.The sales person explains:

"We don't sell those, and besides [insert any Mac myth here]. However, we can sell you an Amstrad/Amiga/ST which will do everything the Mac can do, and it's cheaper, and there's more software."

Another thousand lost sales for Apple.

Then there's another thousand conversations where the prospective buyer summons up the nerve to step inside the hallowed portals of an Apple Centre.

"I am interested in one of these new, cheap Macintoshes," the customer will say.

"Oh, yes?" the sales executive will reply, with obvious distaste.

"But I have this Epson printer that I want to keep. Can I use it with a Macintosh?"

"I'm afraid not," the executive will answer in wrongful ignorance. "Macintoshes only works with Apple printers."

"Oh dear," the customer will say. "I'll go and buy an Amstrad/Amiga/ST then."

Another thousand lost sales for Apple.

The sad fact is that it takes more than technical excellence to make a successful computer (as witnessed by Steve Jobs' NeXT machine). And it also takes more than cheap prices (as witnessed by Amstrad's ill-fated PC-200).

In the last three years Apple has done a remarkable job in challenging the dominance of IBM-compatibles – but only in putting Macs on office desktops.

An increasing number of PCs have also been bought for use at home by people who work with PCs in the office.

That's a market the Mac has never been able to crack. Now, with the launch of the Classic and (when it arrives early next year) the LC, Apple is hoping for a share of that new market.

But it needs a new way of selling Macs to do it. Although Apple Centres have been a great success in winning business respectability for Apple, they are specifically geared towards the corporate customer.

Even the few that are willing to deal with individuals will find it difficult to attract those new buyers into the shop. For the average computer user, an Apple Centre is about as inviting as a dentist's waiting room.

If Apple is going to fulfill its renewed promise of making "computers for the rest of us", it needs a new class of dealer.

The Mac has always been excellent; now it's cheap as well. All that's left is to make it easy to buy. ■

Express Access

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EXPRESS MAIL

Haydn"s firmly back on the case - so get writing if you fancy your chances of winning one of his fivers.

Write and tell HFW what you think about anything under the Sun! Reach him at: *Express Mail, 30 Monmouth Street, Bath BA1 2BW.* Sorry, no personal replies, even with an SAE, as we're too busy writing the magazine.

■ Shedding Light

I have just got my hands on an official MegaDrive and, having noticed the borders that are present at the top and bottom of the screen, I was wondering if games will ever be released that can take full advantage of the extra number of lines that the PAL TV standard provides. I have noticed several mail order places stating that they have a PAL version of *Super Monaco Grand Prix* – will this give owners a full screen display?

And when UK software houses start producing software, will they use the PAL standard or will we have to put up with lots of reduced-screen games like Amiga owners do at present?

Michael Hoey, Glasgow

According to the people at Virgin Mastertronic, it's simply not cost effective for companies that produce games for the Sega to create versions for specific countries. So it looks like your prediction about reduced-screen games could well come true. There is, however, a possibility that some game publishers will go for PAL versions as well as NTSC games – which might be the case with *Super Monaco Grand Prix.* Why don't you ask one of the mail order places before you buy? H F-W

■ Cautionary Tale

Recently, I visited a local radio and computer rally at Bingley Hall in Stafford. Among the usual bargains, I picked up what I took to be a second-hand copy of Hippo-C, a package from a company called Habba Systems Inc. I bought it from the Page 6 stand, and I think they are a user group.

On returning home, I tried Hippo-C and all seemed well until I tried to back it up. The back up wouldn't run. Being a programmer by trade, I realised that some form of protection existed, and so out of curiosity I tried to investigate the boot sector with a virus killer. Guess what I found? Virus Killer wouldn't fire up and gave me a message to say that my machine was already infected. The virus had also spread to four other disks that I used before I realised what had been going on.

The virus in question had within its code the text: "The little green goblins strike again" and the only outcome of the virus so far as I could determine was that the desktop menu bar was turned upside down. It was easily exterminated with a little careful thought and a clean boot disk – but it got me thinking. What if someone less experienced were to buy second-hand software in good faith, and didn't realise what else they had got for their money?

It should be remembered that if you are not sure about the origins of a disk, then never boot from it, scan it if a virus hunter is available, switch your machine off for at least two minutes after using a dubious disk – and keep all your important disks write protected.

By the way, do you or any of your readers know where I can get a manual for Hippo-C as the box I acquired hadn't got one. Perhaps the missing manual should have warned me?

John Bent, 99 Lower Lodge, Armitage, Staffs WS15 4AY

You are not the only one to get caught with the Green Goblin virus, John. As another of my correspondents, John Garvey, pointed out to me – the December Issue of *Atari ST User* has a cover disk with the Green Goblin virus on it. (See this issue's FrontEnd for more details.) With viruses, you simply can't be too careful – you can't even rely on a virus checker or virus killer one hundred per cent – a new strain can always slip through.

'Safe Computing' isn't difficult though – just take the precautions John sets out and you're unlikely to get caught. But why were you trying to make a backup in the first place, eh John... sure you weren't being a teensy bit naughty there? H F-W

■ ...Till They Drop

The article 'Search For Sound Advice' reminded me of the time about four years ago when I was considering adding a disk drive to my Amstrad CPC464. The salesman in one shop I visited (that didn't have any drives in stock) was insistent that floppy disks would be a thing of the past within a couple of years, and everyone would use ROMs!

David Bozon, Nottingham

Some people are still committed to the tape deck, as my next correspondent makes clear ...H F-W

■ Getting It Taped

I would like to see more articles on programming in BASIC – or advice on where to get books on the subject, since no-one seems to be advertising them any more, other than for the Amiga.

Where does one get software for these so-called obsolete computers, many of which still work perfectly – preferably on tape, since we can't all afford disk drives?

Are there any public domain libraries catering for tapes?

There is still plenty of data recorded on tape – even in business and scientific applications. Tape recorders are not yet obsolete, despite the disadvantages of delay in retrieval over the disk drive.

Walter Davies, Worleston, Cheshire

Your first question is relatively easy to answer – if you really can't find what you're looking for by scanning through Shopping Express, try giving Computer Manuals a ring on 021-706 6000, and tell them *New Computer Express* sent you. They are one of the biggest mail-order distributors of books and might send you one of their catalogues if you ask nicely.

As to your next two questions – well, unless you tell me which machine you

■ Addicted to computers?

Please find enclosed my entry for the 'all my computers put together are better than all your computers' competition. As you can see from the photo, my camera is not as good as your camera.

If you look hard, you can pick out 13 machines in the photograph, but the Texas TI99A, Lynx and Atom do not work and have no power supply adaptor. What was/is in the rest of the picture is an Atari ST, an Aquarius, an Oric 1, an Atari 800, a Memotech 512, a Tatung Einstein, a Spectrum 48K, a Commodore C16, Plus 4 and 64, an Acorn Electron and a Dragon 32 which seems to have melted internally.

Since then, I have also obtained a Spectrum +128, a ZX81 and an Amstrad CPC464. I think that comes to a total of 28, but does not include most of the 8-bit Atari range (but the count does include the games consoles I have – Atari 2600, 2600jnr, Colecovision, Vectrex, Intellivision, and Philips G7000 which I also have.)

Daniel Wood, Cardonald, Glasgow.

Hmm. If I wasn't such an open-minded fellow, I might just think I was being conned a bit here. But never mind. Have a fiver with my regards – maybe you could use it to print some tickets and start a computer museum... H F-W

• Not a particularly good example of photographic technique!

are trying to find tape software for, I can't help. If there's one thing I'm not, it's clairvoyant Walter. Your best source of information will be an appropriate user group – and Shopping Express has got the details. H F-W

More SAM Moans

To call a SAM Coupé a 'Super Spectrum' is like calling a Jaguar a 'Super Mini'. The SAM Coupé has phenomenal graphics facilities, easily equal to an Amiga or ST, a superior BASIC, and it can produce wonderful sound effects. The disk drives are excellent, certainly better than those of the +3, and all we need is some serious software, specially written for the SAM.

It is a pity that programmers are wasting their time on producing a number of emulators to use Spectrum programs on the Coupé. All you end up with is a Spectrum with disk drives, and all the new SAM facilities are wasted. But a SAM Tasword is on the way, and the game are getting better. The mouse for use with the superb FLASH graphics program is nearly ready, and a Voice Box is on the market. I am waiting for a spreadsheet and especially a database.

If you can't give SAM a column of its own (yet!), by all means give it coverage in the Spectrum column.

Dr Gerhard Behr, Brierfield, Lancs

'...is on the way...', '...getting better...', '...nearly ready...', '...I am waiting for...'. Exactly the problem with the SAM – it's not yet a mainstream machine supported by a host of products. But I'll send you a fiver for sending in the most reasonable letter about the Coupé yet, Dr B. Which is more than can be said for my next correspondent. H F-W

SAM Rant

What is all this about stopping the SAM Coupé column? Do you know what you are doing?

I am a former reader of *New Computer Express*. As a reader, I fall into the category of hobbyist. I like to read about the computer I use.

Is the reason for dropping the column anything to do with it being 8-bit? If so, why do you still run columns for the C64, MSX, BBC B etc? Maybe this is not the reason. Perhaps you don't like to encourage anyone to buy a new 8-bit computer?

The Coupé is going from strength to strength, as far as software and hardware are concerned. People are working hard to support it. Games and utilities are appearing weekly. (*Several paragraphs of ranting removed in the interests of avoiding tedious wibble in the 'My Coupé is better than anything else in the world' vein* – H F-W)

It could be that you have taken a dislike to Alan Miles and Co – if this is true, why should you take it out on your readers?

I used to like your magazine before your started your current anti-Coupé campaign. I like to read about all aspects of computing and not only my own computers. I could be accused of being afflicted by by a conspiracy complex, but until you stop ignoring my computer I will still browse through your magazine at the newsstand, but don't expect me to buy it!

D G Whitmore, St Helens, Merseyside.

Right. That's it. I've had enough of this Coupé Crying, and of idiots like you Mr Whitmore. Let me set the record straight once and for all.

For a start, if you were to read *Express* properly, rather than just flip through the pages every week looking for the old quarter-page column on the SAM Coupé, you'd have spotted one or two things. To wit, there is no longer a column for the MSX, nor is there one for the BBC B, or even the QL.

We made these changes to make more space, and at the same time upped the number of editorial pages in the magazine We have upped the space we give every week to the Spectrum, and our trusty columnist Robin Alway is more than happy to mention what's happening in the world of the Coupé.

Sadly, Robin does not live in the dreamworld that you inhabit. You speak of Coupé games (plural) and utilities (plural) 'appearing weekly'. So where are they all then? So why isn't Robin Alway (who has a SAM at home, just like our technical ed) being sent all these amazing products? Because, as yet, Mr Whitmore, they don't exist in the droves that you imagine they do.

I'll wager if you sent me a list of all the wonderful things that have been released for the Coupé since 1st November this year, you'd be hard pushed to beat ten items.

The Coupé is a fine machine. 8-bit computers are fine machines. *Express* has nothing against any machine, in fact. Console, supercomputer or Oric Atmos – whatever the format, we're happy to report on new developments. And if we thought so little of the SAM Coupé, how come we've arranged to give one away as the main prize in this week's competition, eh Mr Whitmore?

And I'm not printing ANY MORE letters about the SAM. Okay? On the other hand, if anyone out there with a new product for the Coupé would care to send it to me, personally, by recorded delivery, I'll make sure it gets good coverage in *Express*. H F-W

Software Sucker

Is it just me, or do others out there think most 16-bit games suck? I remember the first time I saw Ultimate's *Sabre Wulfe* and the later *Knight Lore* for the Sinclair Spectrum. At £9.99 they were tremendous value and I strongly recommend anyone who thinks 16-bit is the biz to take a look at one of those classics playing. You WILL be amazed, especially when you realise the gross limitations of the piece of kit they run on.

How much would they cost if they were implemented on the latest 16-bit? £25 perhaps? Would it make them any better as a game? Having said that, I'd rather die than give up my copy of ImageWorks' *Interphase*.

M Stellor, Middleton, Manchester

Hmm. I'm sure I expressed similar sentiments myself a little while ago, but there you go. Those 16-bitters too new to the hobby of playing good games might like to check out another ImageWorks release – *Cadaver*, which by all accounts should offer as much fun as those early 8-bit offerings from Ultimate. There's no way a game from the Bitmap Brothers is going to 'suck', now is there..

.H F-W

The Ed Writes...

Last week's letters column was hit by a strange quirk. The draft pages, rather than the final file that Hadyn sent us over the modem link got printed – no offence was intended to Roger Peacey in particular, or ME sufferers in general. Indeed we fully understand the seriousness of the condition. A couple of fivers are already on their way to the ME Association. Meanwhile, here's the reply that should have appeared with Roger's letter.

Point taken, Roger, though I don't think Mr Coghill was seeking to trivialise the affliction that is ME. It's a real disability for some sufferers – and one which computers can play an active part in alleviating, but not causing. Sorry for any offence. H F-W

Talking Shop...

I nearly split my sides laughing at some of the tales of computer illiterate high street shop assistants, but in retrospect your article in *Express* 103 was not so funny.

A computer should be considered as viable a household appliance as the other products that these shops sell; in fact, considering the potential of any machine that can be used for such diverse purposes as business, leisure, publishing and education, it seems almost criminal that these stores advocate such ignorance.

Buying a computer of any sort is an important investment – why can't these shops see that?

On to my next point. I don't think you'll thank me for saying this, but I DO miss old PCW. I used to buy *Express* and *Popular* every week and enjoy them both – but do you at *Express* miss *Pop* at all? Not even a teeny bit? I mean, isn't competition good for staff morale?

Greg Coyle, Kilmarnock, Ayrshire

'Caveat Emptor' pal – which is Latin for 'Buyer Beware'. Shops don't 'advocate ignorance' – they just have the odd ignorant salesman. Go to a specialised computer shop and you are likely to get more useful advice, but then you are also likely to have to pay a higher price. To invoke another old saw 'You pays yer money, and yer takes yer choice'.

The article you refer to tickled the memory cells of my next correspondent...

H F-W

MAIL SHORTS

Empty Threat

I was extremely upset – well appalled actually – by the outright misquotation of myself by Steve Carey in the Atari Whistlestop Tour article in *Express* 105.

He was incorrect when when he quoted me as saying that I 'enjoyed playing with the Atari Lynx'. I enjoyed playing with the Atari TT! In fact, my son had to drag me away in order to get lunch. I therefore demand two of your fivers as compensation for this outrageous slur on my character, or I will be forced to take further action.

Clive Parker, Pill, Bristol

Take further action if you like pal...

H F-W

MCIIMSTYC?

Could this Commodore-Amiga-spotting in *Neighbours* see the start of a 'My Computer Is In More Soaps Than Your Computer' debate?

Alan Foster, Bassett, Southampton

Quite possibly, Alan, It just depends on how eagle-eyed *Express* readers turn out to be. H F-W

A-Mazeing Plea

I am desperately seeking a copy of *Midi-Maze* by Hybrid Arts for the ST. It is an old game, no longer in production – can you help, and tell me where to find it. You are my only hope!

Michael Kirk, 50 Ripon Road,
Stevenage, Herts SG1 4NA

You are quite right, Mike. Even the efficient people at the Special Reserve Mail order club couldn't track a copy down. Your only hope is that one of our readers has got an original copy for sale. If anyone can help Mike, you now have his address. But no piracy, you lot! H F-W

More Fulsome Praise

I have recently purchased a major piece of kit – an Amiga 500 – from a mail order firm that advertises in your mag. I must congratulate Digicom for the excellent service they provided.

R Girvan, Cumbernauld, Glasgow

It just goes to show that *Shopping Express* attracts the very nicest kind of advertiser. And as we take the final run-up to the 'Season Of Goodwill' it's good to see that some people are still prepared to offer praise where it's due, rather than just moan on and on.. .H F-W

Read all about it

A glance at any news stand in the UK or any Western country will reveal dozens of magazines on the computer of your choice.

In Russia it's not so simple. The only place I saw a recognisable magazine was on the book stall in a museum. An old second-hand copy of the US magazine *Byte* was offered for more than the average weekly wage.

In order to produce informative computer magazines, the Soviets have formed joint ventures with foreign publishers to reprint magazines in Russian.

The Polish *Compute* magazine from publisher ComPress is a DTP produced general computing magazine on sale monthly in Poland. An extra week's work translates it into Russian. Editor Marek Car said: "We looked at Russian versions of PC DTP programs *Pagemaker* and *Ventura*. In the end we worked up our own Russian version of *Calamus* to use on the Atari ST." He added: "We output from *Calamus* to a laser printer and send the pages to be turned into the magazine. " Until *Compute* arrived in early 1990, the Polish edition was the only mainstream computer magazine available in the USSR.

A survey conducted in the Russian *Compute* showed that at least 90 per cent of the readers were using Spectrum clones with the rest made up of Atari XEs, DVK BOKIs (the Soviet educational computer that occupies a similar niche to the Beeb in the UK) and a few MSXs.

Recent joint ventures with foreign publishers now offer Soviets a choice of four magazines. As well as *Compute* , there is *Computer World* – regarded as too Macintosh oriented in a country where there are only a dozen or so Macs. *Inter Computer* – a good technical read and a Soviet/Finnish magazine called *HOBNTEX*..

THE EASTERN

As the BA 757 bumped on to the cracked concrete of Leningrad's military airport I saw the first trappings of austerity. I'd been invited to view the latest in Russian computing, but the single storey concrete terminal buildings and the advanced state of decay in everything from the runways to the airside bus suggested a scene from an immediate post war film.

The road into town was long and full of potholes. So I arrived at the hotel in central Leningrad shaken-but not stirred.

In the foyer a PC was showing an advertisement for the hotel. A peek at the back of the computer showed the main system unit to be of Soviet manufacture and the monitor to be Taiwanese. I was led off to the annexe reserved for foreign nationals and found another PC at the reception. This brand of Thai-Soviet technology was on show in all the hotels I saw during my Soviet visit and looks to be the de-facto standard for information technology in the Soviet tourist industry.

The initial invitation to visit the Soviet Union had come from InterCompex, the Leningrad based company producing the Spectrum based Hobbit. I had high hopes for the promised trips to the plant where they were preparing to take the wraps off a couple of new Hobbits and a Spectrum-beating console.

First impressions of Leningrad were of an old fashioned city with little traffic. Buses, Trolleybuses, trams and a deep Metro carry the population around and were heavily subsidised. Five kopeks (about half a penny) was enough to whisk you the length of the city .

The socialist system of the USSR means that most things are state owned and administered and there is little or no need for advertising and promotion. This leaves the city looking somewhat naked and unlived in.

If you need something, you are allocated it if and when it's available. The allocation can come from Central government in Moscow, the State government or region or from the local administrative government.

Computers are in short supply and the people whose jobs involved the use of a computer considered themselves lucky to have one. To buy an ordinary PC XT could cost 60,000 Roubles if you could find one for sale – and 2,000 Roubles a month is considered to be a very good salary indeed. Even rarer is the idea of 'owning' a computer at home. There are very few 'home' computers in the USSR. Those that do exist are the property of the very rich (by Russian standards), those who have assembled a computer from the few available components or those who have been given them by friends in the West.

The current Soviet philosophy is to learn from existing technology by example and refine ideas until the product is much better specified than the original. I was left in no doubt that technology was taken seriously in the USSR and every company and factory had access to whatever technology they needed via a state information service. Dmitri Mikhailov from InterCompex (the company which invited me to see its plant) said: "We don't want obsolete western technology dumped on us. We must catch up, not remain behind".

A week of meetings and travels took me to schools, military factories, offices, shops and hotels. The Russian people were warm, friendly and accommodating, readily sharing what they had and talking with animation about everything from Raisa Gorbachev to Lenin. Although I was glad to see the friendly British Airways cabin crew at the top of the ladder on the way home (there are no elevated walkways in Leningrad) I felt that I hadn't seen the last of the Soviets. The days of the cold war may be over, but with their promised technological revolution, we may see a gentler invasion via the high street computer stores.

Tackling technology Soviet style . . .Tackling technology Soviet tyl

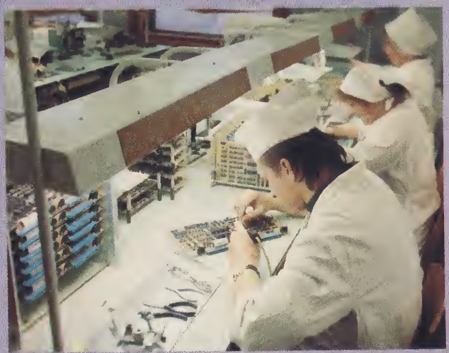
The sterile conditions, protective clothing and test rig procedures could be at any high technology manufacturing plant in the West, but for a few obvious differences. The photographs were taken in the factory on the outskirts of Leningrad that produces the Hobbit computer.

These first pictures wouldn't normally available to the West as the factory is a Soviet military installation and is utilising its excess capacity to help push the USSR forward in the technological stakes. The red tape that had to be cut to take these pictures out was formidable and only after a KGB man had checked through the viewfinder was the shutter allowed to fall.

Each factory and installation has at least a couple of KGB residents and to someone fed on the pulp fiction of Le Carré and chums, it came as a surprise to find out that those three terrifying letters do indeed mean more than interrogation and espionage.

The factory had a KGB resident from the First Directorate who was responsible for internal factory security and all matters of integrity in the day-to-day running of the plant.

Also available to hand was a representative of the Second Directorate. His duties seemed to be less clearly defined, but in simple terms he was in charge of external research. For example a scientist or engineer wanting to work on a complex logic array would be forbidden by the Second Directorate to take time and resources developing something that is readily available off-the-shelf elsewhere.



- *Bespoke hand made circuit*

- *Checking PCBs in sterile conditions.*

The Second Directorate person would take note of what was required and the full might of the KGB would swing into action to get it. This could mean purchasing catalogues or manuals or even chip plans. These would be given to the person who had requested them and copies would go on file and into the central KGB cross referencing system.

ERN PROMISE

The Soviet Union is closer than you think, but with the door locked for the last forty years it hasn't taken kindly to Western tourists. Keith Pomfret learned the secret Glasnost knock and checked out the USSR computer scene.

School's Out

In the USSR, schools have numbers not names. I visited school 564 to see how computing is taught in Russia.

School 564 had a classroom at the top of the building dedicated to Physics and computing. A waist-high work surface around the perimeter of the room carried a dozen Hobbits and the teacher proudly showed me the AT clone that he drives the Hobbit network from. As well as the formal aspects of computing the students are encouraged to experiment and even play games.

• School 564's proud possession – an AT clone.

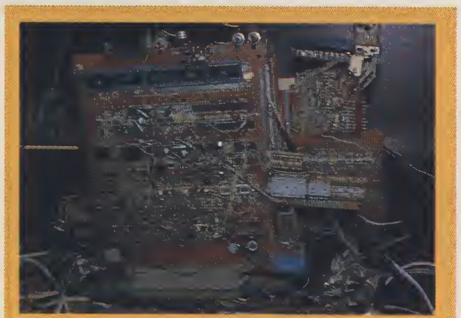
• In the classroom – the Hobbit network.

A suspect copy of *Chuckie Egg* was dusted off in order to demonstrate the classroom's network. The familiar Spectrum game popped up on the networked machines.

A demonstration showed that each program was independent once loaded into the nodes of the network and could be monitored from the teacher's PC.

Teacher Yuri Karreskj said: "We are lucky to have these computers. Not every school in Leningrad has a network like this. We got local government sponsorship in order to install the net. Some schools have no computer and others manage with a few outdated Japanese MSX."

School 564 has around 600 students attending and Karreskj was emphatic about their enthusiasm: "The school curriculum allows a couple of hours computer study a week," he said, "That's not enough and the students come back in their own time in the evening to use the computers. They'd stay all night if we let them."



•The kind of 'breadboard' computer common in Russia. This one is the development prototype for the new Hobbit.

Grow your own

Computers aren't widely available in the USSR yet, but the thirst for data processing power means many Soviet citizens have become hardware and software engineers by necessity, building computers from scratch using what parts are available.

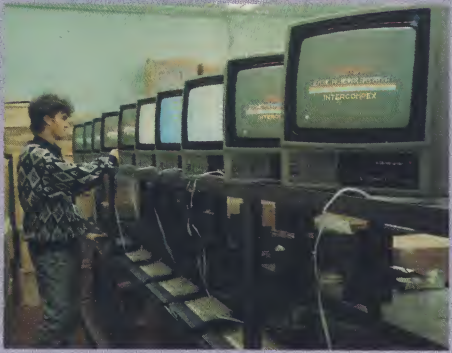
However, the less painful way is to take existing technology and clone it. The Sinclair Spectrum is well documented in the USSR and in Leningrad alone it's guessed that there are at least 20 home grown Spectrum clones built from need.

МИНИСТЕРСТВО ПРОСВЕЩЕНИЯ
ЛЕНИНГРАДСКИЙ ГОРОДСКОЙ ОТДЕЛ
НАРОДНОГО ОБРАЗОВАНИЯ
СРЕДНЯЯ
ШКОЛА · 564
ЛЕНИНСКОГО РАЙОНА г. ЛЕНИНГРАДА

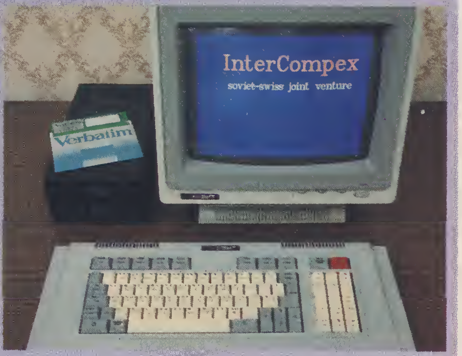
• Schools have numbers, not names.

viet tyle . . .Tackling technology Soviet style . . .Tackling technology

• Waiting for the case.



• Soak testing Hobbits.



• The finished products.

The raw data and manuals could come from elsewhere in the USSR, if it had been previously requested, or from abroad. With the lack of copyright and patent laws in the USSR there are no cumbersome licensing agreements to restrict or hinder the use of technology, or for that matter, anything.

The West has become alarmed at the amount of ideas, technology, hardware and software going east into a free-copying and cloning void. As a result of this, plans are at hand in the USSR to formalise copyright of imported goods from next year and regulate the use of foreign ideas and equipment.

● It's easy to wave an indignant finger at the borrowing and copying of ideas by the USSR. Only last week, though, Amstrad boss Alan Sugar reacted angrily at new EEC copyright laws that will make it illegal to examine software, take the best parts and ideas and write a compatible suite of programs.

Sugar said:"The Community is on the verge of putting its computer users at the mercy of IBM, DEC and a couple of other multi-nationals."

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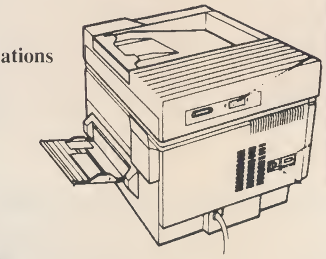

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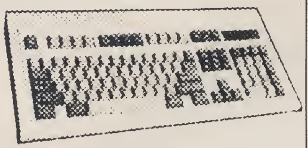

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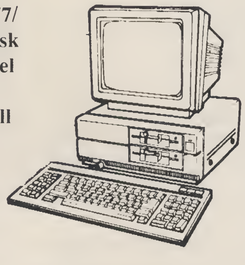

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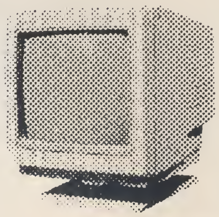

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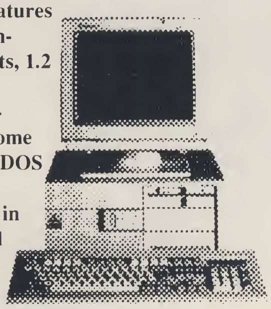

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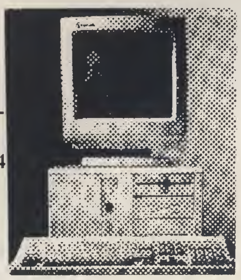

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Amiga

CD AFFAIRS

So you thought the ultimate in CD-ROM technology was the CDTV, eh? Think again. Before Commodore has even starting thinking about shipping CDTV's to us lowly end users, Xetec in the States has already started selling its CD-ROM system for the Amiga range (including both the A1000 and A500!).

Its CDx-650 is a SCSI CD-ROM drive that offers unlimited access to vast amounts of information on removable, non-volatile CD-ROM discs. The drive reads industry standard ISO 9660/High Sierra discs with a maximum capacity of 650 Mb. This is exactly the same format as used by Commodore's own CDTV, which means that owners of the 'real' Amigas will also be able to take advantage of software for the CDTV long before Commodore releases an 'official' CDROM drive.

Just like Commodore's CDTV, the CDx-650 can also act as a conventional CD player, therefore allowing you to play audio compact disks when used in conjunction with the supplied software. Just think, the ultimate pose - an Amiga-controlled audio CD player! The drive is available either as an internal model for the A1500 upwards, or as an external drive for connection to the A500 and A1000. Each drive features dual SCSI connectors for daisy chaining drives together.

OK, CD-ROM software for the Amiga isn't exactly available in great numbers, but to get you going, Xetec includes a free CD ROM called 'Fish and More'. This disk contains the entire Fred Fish library of PD disks (up to Fish 360, to be precise) plus a few disks from other collections. As Xetec itself claims, if you were to buy the entire Fish collection on floppy, it could set you back well over £1000! What's more, the drives are also pretty damned cheap. How does just under £500 grab you? When you consider that you also get what represents over £1000 worth of PD software, the CDx system is great value for money. PD suppliers may be well advised to take note - after all, CD ROM is a much safer storage medium than floppy or hard disk!

PC PLUS

Users of Bitcon's acclaimed KCS Power PC Emulator board will be pleased to hear that the company has released not one, but two software upgrades for its device.

First up is version 1.5 which offers many enhancements over the original release. These include support for non-MS-DOS disk formats (therefore supporting most copy-protected PC software); a sophisticated Disk Cache system (which speeds up disk accessing considerably); support for the MicroSoft Mouse; improved serial port emulation, full support for the new Enhanced Chip Set (ECS) upgrade (including an improved Hercules display); more user friendly installation program, extended Help facility during PC emulation and finally, an extra eight colours in CGA mode (bringing the total up to 16).

By the time you read this, Bitcon should also have version 2 of the emulation software available which offers the following extra enhancements over version 1.5 - support for the A590 hard drive (store PC programs and data on your A590!), built-in mouse driver and support of the parity bit on the serial port.

The upgrades don't stop there, however. Early next year, Bitcon plans to release another upgrade which will enhance the Power PC Card even further. Extra features are support of most EGA and CGA video modes, an expanded memory manager which will allow you to use all your Amiga's memory during PC emulation and support for a number of major hard drive brands.

For more, give Bitcon a call on 091 490 1919.

AMIGA ON TV (AGAIN)

The mystery is solved. After a recent phone call from Gary Fenton, head of Deeper Domain PD, the mystery surrounding Commodore's involvement with the popular Australian soap, *Neighbours*, has finally been solved. Although Commodore is listed in the credits of *Neighbours*, no one seemed to know precisely what kind of assistance Commodore were providing. All can now be revealed.

According to Gary, an Amiga 500 can be seen being used by Paul, Gail and Jane in their office. The machine is used for a number of different applications including spreadsheeting and word processing. Rumour has it that Paul also has a copy of 'Teenage Queen' locked away in his desk drawer. Seasoned *Neighbours* fans may remember that Paul used to own an Apple portable (not a Mac!), but it seems that time has finally run out for the aged machine.

Once again, *New Computer Express* proves that it can bring you the best stories from the Amiga industry - You don't get stories like this in Byte!

MUSICAL GAJITS

So you wanna get into Amiga MIDI but can't afford the high price of such professional offerings as *Music-X* and *Pro-24*? If so, then Gajits' new *Sequencer One* could be for you.

Based around the original ST program, *Sequencer One* offers 32 tracks of real time MIDI recording; real and step time, with complete graphic-based displays and editing. According to Gajits, the Amiga version also offers several extra features of the ST version that take advantage of the Amiga's increased power. It seems almost certain that *Sequencer One* will take full advantage of the Amiga's sampled sound capabilities.

For more information on this and other Gajits music products, give 'em a bell on 061 434 2768.

STATESIDE SCENE

Fuller Computer Systems has released an enhanced version of its highly respected software backup tool, Project D. According to Fuller, the new release is now fully Workbench 2.0-compatible.

All you desktop video fanatics will no doubt be pleased to hear that Elan Enterprises has produced version 2 of its desktop presentation system, to be known as *Elan Performer*. Version 2 is going to offer support for even more image and animation formats (more than any other hitherto existing Amiga program), full A Rexx support including recorder and MIDI applications, enhanced animation editing and, of course, full NTSC and PAL compatibility.

Firing up for the impending release of Amiga DOS version 2, Commodore US has been going to great lengths to assure end users that the new release isn't going to leave them stuck with a load of incompatible software which they are unable to use. And so, in its latest move, Commodore has requested all software manufacturers to explicitly state whether their products are Amiga DOS 2.0 compatible or not.

To encourage them to comply with this initiative, Commodore has made it easier for them by issuing stickers which can be affixed to the front of packaging to allow users to see at an instant whether the software they are buying will work with their 2.0-based Amiga.

Commodore also believes that this should encourage software houses to ensure that their products are Amiga DOS 2.0 compatible – after all, many users may choose an alternative product if they aren't sure whether a particular product is Amiga DOS 2.0. – no one wants to waste money on something that may turn out to be useless as well as expensive. Nice one, Commodore!

AND LOOKING FORWARD TO NEXT WEEK

If you have enjoyed my ramblings be sure and check out next week's *New Computer Express*, in which I shall be reviewing the latest batch of books from the publishers, Adamsoft. Also of course, even more news and gossip and hot tips from the within the Amiga industry.

My name's Jason Holborn, thank you and good night.

Jason Holborn

Archimedes

TALKING TURKEY

Sometimes, you can let the quality of the product speak for itself. Snarf gnrulbbud flepsh wub ll meahh. See what I mean? *DT Talk* is an achievement of sorts. It's a software-only speech synthesiser for the Arc, a sort of Superior Software Speech! That only barely earns its 32-bithood by dint of working on the desktop. You give it a line of text or a text file, and it gives you hiccups – its spoken version of the text. It works by splitting up the text into allophones (all the different sounds used in natural speech), then saying the allophones. No system is perfect, but it makes a pretty good stab at splitting ordinary text into allophones: a couple of test sentences were spoken nearly as clearly with the simple *Say command as with my hand-tweaked SWI calls direct to the module. But the actual sounds it makes are dubious. Speech demos usually cheat by letting you read the text on screen at the same time. The best test is to try to understand some text 'blind', and it's difficult. Curio interest only, and I've no idea how much it is, but the address is DT Software, 13 Northumberland Road, Leamington Spa, Warwickshire.

INTERFACE LIFTS

The whole point of WIMP software is to make it easy to use, and consistency is a big part of this. If you've learned how to use one RISC-OS application, then you're half way to knowing everything else.

That's the theory, but I'm not entirely sure that an in-depth knowledge of Artisan would help much with Data Vision.Like other graphical user interfaces (the Mac, Windows or Presentation Manager on PCs, Motif or Open Look on Unix machines etc), RISC-OS has a style guide. Unlike the others, it's not very easy to get hold of.

Some of the guidelines in it are basic, straightforward and sensible – Acorn seeks to standardise the colour schemes used within windows, to encourage the restrained, almost anaemic look of programs like *Edit* and *Draw*. It sets out the standard shapes and sizes for sprites, icons and menus, as well as giving guidelines on what the Adjust button should do. Much of this information is duplicated in the Programmer's Reference Manual, but there is extra detail in the style guide itself.

Buried in the detail of the book are a few more general points about the style of working – for example, it advises you to set up dialogue boxes as part of the menu system where possible (as with the colour selector in *Paint* and *Draw*), rather than separated from it (like the frame border dialogue in Acorn DTP). But overall, it seems as if the detail gets more attention than the big picture. A little of the advice is downright daft. There is a force of natural selection at work with software, and one of the ideas that has stood the test on other machines is Cut, Copy and Paste. To move some text, you select it, cut it from the original position, indicate the new position and paste it into place. *Edit* uses a different scheme, as recommended in the style guide: Delete, Move and Copy, which harks back to View on the Beeb.

What's the difference? I've taught beginners how to use both systems, and I know which one causes more confusion. With Cut, Copy and Paste, there can be a selected area or a cursor, but never both. Delete, Move and Copy leaves you with two active areas to keep an eye on – the selected area as well as the cursor. Check out how it works with *Edit* and *Acorn DTP*.

While I'm seated comfortably on this hobbyhorse, I might as well

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complain about the way the printer drivers set up the serial port. One dialogue box could do the job of several menus, and considerably more quickly. And about the lack of standardisation of function keys (*First Word Plus* and *Acorn Desktop Publisher* use different function keys, despite both being written for Acorn by GST – unbelievable). And what happens if you change from a 'big screen' mode to a smaller one.

Add to this list... If you have a comment on the style of Risc OS, or on software you think needs an interface lift, write to me here at *Express*. I'll pass on the better ideas.

THE WIMP GAME

Stupid. Boring. Pointless. A complete waste of time. This is my kind of game. It works on the desktop, and needs only a few deft flicks of the mouse to play. You're in a house, and have to progress through rooms by manipulating objects in the house pouring a cup of coffee in the kitchen, working the microwave oven and so on. As each stage unfolds, you're rewarded with a more powerful micro, starting off with an Acorn Atom and progressing through Beeb and Arc to the ultimate prize, a Unix workstation. It's an original. Fourth Dimension has a great reputation, and the *Wimp* game can only enhance it.

SCSI AND ALL THAT

One hardware manufacturer pointed out to me that the Arc's two direct-drive laser printers (see *Express* 105) transfer data to the printer at about two megabits per second. And that's well within the realms of SCSI interface speed. So what about a SCSI interface to the printer's memory, making a 'direct drive' printer that isn't tied to the Arc but can still be used with other computers too? Nothing exists as yet, but it's plausible: watch this space for further rumourmongering.

ADDING FONTS

A quick look at some of the Electronic Font Foundry's latest output has shown that many of its fonts are now Postscript compatible. Its latest catalogue lists 35 compatible families, which can all be used on screen, with non-Postscript printers, and typeset (from a Postscript file) by a typesetting bureau. They all look good on screen, and are properly hinted.

Of course, you're still limited to ten built-in families if you're using a Postscript laser printer (not eleven, as even EFF doesn't yet do a compatible Helvetica Narrow). Further info from EFF on 0990 28698. Some of you who have acquired new fonts may want to use them with *Acorn Desktop Publisher*. This application needs to have new fonts installed properly in the `dtp_config file`, and to do this you need to give each a number – the 'Ventura Font Number'. In fact you can give each new font any number. But your documents may then not work on other machines because the font numbers may be different.

A list of the correct numbers appears in the table below, together with the equivalent Postscript font name. Have a look at the Trinity font entry in the config file to see how to go about adding some new ones. There are lots of other Ventura font numbers, but the table covers all the ones you'll be finding in any Postscript printer. It doesn't list duplicates — Beebug Paladin is the same as Pembroke, EFF_AG is the same as Avant Garde and so on.

Anyway, here's the table.

Vogue	Avant Garde	51	Beebug
Book	Bookman	23	EFF
Corpus	Courier	1	Acorn
Homerton	Helvetica	2	Acorn
—	Helv. Narrow	50	–
New Hall	New Cen. Sch	20	Acorn
Pembroke	Palatino	21	CC
Sidney	Symbol	128	Acorn
Chance	Zapf Chancery	29	EFF
Trinity	Times	14	Acorn
Selwyn	Zapf Dingbats	129	Acorn

FORTHCOMING ATTRACTIONS

Why have I been batting on and on about fonts? This is simply because I've been playing with laser printers for too long.

Now, just imagine a £50 note. Done that? Good. Now that you have got the hang of it, imagine eight more – and you have what amounts to a thin thin wad. Something that size (and quite by chance, costing exactly that much) can turn a bog-standard Laserjet into a killer Postscript jobbie. Not only that but also Chocks Away (perhaps), Avanti and all sorts of other things.

Ken Coumarin

PC

PERRY PUSHES OFF!

The biggest surprise this week was the news that Roland Perry was leaving Amstrad. Perry – the man behind the CPC, and driving force behind its enhancements for the GX4000 and Plus machines!

But what or who could have tempted Perry away from Amstrad? Well, no-one, Perry's gone off to work for himself, as head of Perry Technology Consultants in Oxford, and good luck

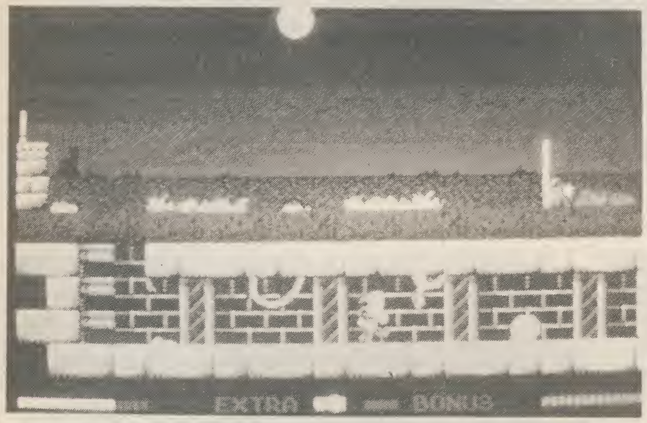
Meanwhile profits have slumped again. Only £44 million this year, after last year's £76 million. That in itself was down from the previous year's £160 or so million!

Amstrad doesn't seem too fussed by it all though, and most corporations are having to tighten their belts in the current economic climate. Bring down interest rates, that's what I say! (Largely because I'm in hock to the building society for a sum which would have made a good Third World debt a few years ago.)

SWITCHBLADE

I'll get the apologies over with straight away. The bulk of this week's column is going to be devoted to Gremlin's first console outing. What a brilliant game! If you're thinking about getting a console or upgrading to a Plus, just take a look at this piece of software (but make it a long look, as we shall see). I've been playing *Switchblade* for about a week now, and I'm utterly hooked. Why? Well it's not altogether the graphics, not entirely the gameplay and not just because of the game's size. It's really the way Gremlin has combined all those into an excellent whole.

First, the plot. You play Hiro, last of the Bladeknights, as you attempt to piece together the 16 fragments of the shattered Fireblade and destroy the evil Havok, cause of all the trouble.



• The amazing world of **Switchblade.**

The action takes place *Rick Dangerous* style, but with one or two important differences. Firstly, although your main sprite is cute, the baddies are not remotely so. Early on you'll meet horrible, scuttling creatures that carry you writhing along in their grip if you're not fast Later on there are lethal scorpions and other grotesque apparitions.

The second difference is that, unlike *Rick Dangerous*, the labyrinth of tunnels and chambers you're exploring is only revealed as you step into each section. When you're exploring new territory, it really is like a step into the dark.

Hiro has three fighting moves, the type depending on how long you keep the Fire button depressed. A short stab has him delivering a punch, a longer press means a high-kick while, if you keep the Fire button pressed until his 'kickometer' reaches maximum he unleashes a sweeping low-kick, the most powerful of his moves.

Also, along the way there are bonuses to collect which increases the rate at which Hiro's kickometer builds to maximum, and others give the meter one or two points head-start. These act cumulatively, so powerful low-kicks can often be delivered in an instant.

You can collect weapons, too, as you travel on your way, including shuriken and missiles. You only have fixed ammo with these, but there are also replacement ammo packs if you know where to look.

Hiro looks a bit of a weed up against the various creatures in the game, but he's a tough little blighter. Each hit will send him reeling, but he'll come on back for more – right up until the point where his vitality meter hits zero. Then he loses one of his initial five lives.

And that, basically, is it. There are lots of little tips and wrinkles you pick up on the way, such as standing on packing cases to kick the bad guys in (most can't touch you then) and waiting on each new screen to see where the monsters generate. You'll also have to negotiate the odd *Rick Dangerous*-style timing puzzle here and there.

Thrown in for good measure are some pretty nasty end-of-level guardians (even if there are no distinct levels), and these need the right weapon and the right timing if you're to get past, but these are no real problem once you know how to deal with them.

Early impressions are of a game that's a tad too easy – you can make a lot of progress without coming across any really serious opposition. This is misleading. There's plenty of opposition all right, it's just that you're talking about a seriously big game area. To give you an example, I'm pretty good at *Switchblade* by now. I reckon I've picked up about six of the Fireblade fragments – a tad under a third of the way through the game. But to get even to that stage takes about 45 minutes! And that's all action.

What's more, Gremlin hasn't taken the easy route and just stuck in more and more baddies to make the game tougher as you go along. No, the baddies themselves get tougher. You can get half way through the game and you'll only have seen half of what it can throw at you.

The graphics also take a while to impress. You first think you're looking at a (decent) Speccy port of some sort, but you soon get to realise that that sky really is rather well-shaded, and those sprites are detailed and well-animated. And once you get below-ground, then you realise what a good job the programmers have done. The sprites aren't as good as the ST versions, but the backgrounds are better! This is due to the use of the hi-res Amstrad four-colour modes, split screen techniques and the use of sprites as objects. There's a lot more than four colours in there, I can tell you that!

Switchblade is a game of great subtlety. It doesn't hit you with a bang and then leave you feeling bored and disappointed a day later. Instead, it gradually dawns on you that what you are playing is a superbly crafted, extremely playable game of truly epic proportions.

Like any console game, of course, it costs. Is £24.99 a fair price. For *Switchblade* it is.

PCW PLUS

There's just time for a quick item of techie gossip. Now, did you know that a certain number of German PCW machines were imported a while ago because of demand in the UK for that

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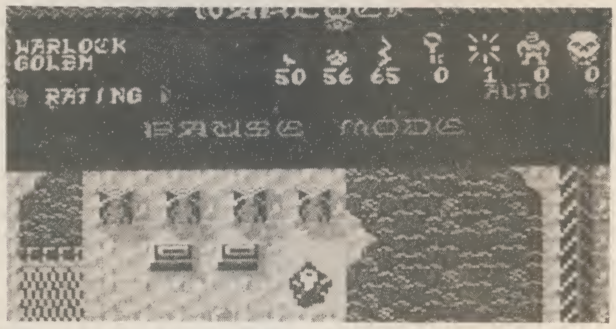
machine? Yes, yes, I know the PCW's a boring old box for vicars and train-spotters, but no, listen will you? It seems these German PCWs didn't have the normal PCW edge connector for expansion at the back, but a proper D-connector. (Getting those feelings of deja-vu yet?) Well now, in recognition of the problems this might cause, Amstrad made available a special adaptor that let owners of the D-socket PCWs use all those existing edge-connector type peripherals.

Now wouldn't it be a coincidence if that adaptor should also plug straight into a Plus? And if all those existing CPC peripherals would thereby likewise plug into one of the new machines? That wouldn't be coincidence, that would be a bloomin' miracle! . Yet those miracles do happen (in computing as well as broadcasting) and these special Amstrad PCW dongles really will, it seems, let Plus owners plug in all those beloved CPC bits and pieces they've accumulated over time.

Getting one is a problem. Your best bet is probably going to be to try to get one from Amstrad direct. If they won't cough up, there's always WAVE, which is making its own version and can be contacted on 0229 870000.

Rod Lawton

64



• When your Druid energy runs low, simply stand for a moment on a recharging grid .

NEW MILLENNIUM

Old habits die hard, and to prove it Millennium has just made the second *Druid* sequel, *Warlock*.

The first, *Enlightenment*, was a Firebird game just like the original. Unfortunately, it was so much like the original, in which players controlled a blue robed Druid's exploits in a somewhat *Gauntlet*-like world, that it didn't do that well. Nevertheless the azure adventurer's success is not only being relived with the new game in *Warlock* but the original *Druid* game is being included in the package. With any luck it should be out in the next few weeks.

GET YER CABLES

York Electronic Research is determined to bring C64s and PC/XT/AT compatibles closer together with the launch of a new cable. The CBMPC Link connects C64 peripherals to any standard IBM compatible and offers menu driven file transfer software to copy data and programs between the two systems' different disk formats. The link will also drive a Commodore 64 printer from a PC without any effort. The CBMPC Link costs £34.50 including VAT and postage which puts it in the realm of devices of most use to developers.

You can have a chat with YER to discuss its potential on 0904 610722.

SCROOGING

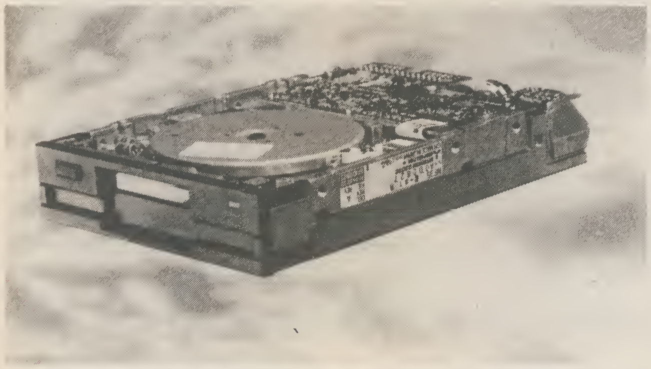
It's all well and good to go on about new releases and bits of hardware, week in and week out but that can be frustrating if cash is hard to come by (and when isn't it?) so perhaps now is the time to consider the possibility of bargain hunting, either for yourself or for a present for somebody (as it's getting worryingly close to that time of year). A colleague with hungry eyes recently returned from one of the All Format shows at which he said he'd seen a C64SX for forty quid. Now forty quid isn't something that most of us just happen to have spare but it still sounds like one of the best ways to get into home computing or computer games on the cheap. If you don't remember this ill-fated luggable, it was a by-product of Commodore's unfathomable mid-eighties model release policy. It was a C64 with a 1541 disk drive and something like a 6 inch colour monitor built in – in other words, everything you need to get into a branch of home computer entertainment which is perhaps more active now than it has ever been. There are new All Format shows all the time so it's worth keeping an eye out for them in the press. They are certainly the best places to pick up a C64 of some description for the right price.

The main advantage of the shows in this respect is that you can examine the condition of the computer before you part with any cash, unlike when you respond to a classified advertisement (although these too are good places to look for small economic miracles). Another possibility is to see what members of computer groups keeps locked away in their 'don't use it any more' cupboards. Basically, you can trundle down to your nearest independent software or hardware shop and ask them if they know of any active home computer clubs in the area. Independent retailers usually know of at least one group of some description and even if the group is currently going through an Atari phase or something equally inexplicable, there's a good chance that a member will have just what you're looking for. What you have to do to get people to part with old treasures like an unused C64 is listen for the right responses. If the owner only talks about his old Commie in the past tense, you're on to a winner. On the other hand, if he says the last game he bought for it was *Chase HQ II*, forget it. It's still his thang...

Once you've secured the machinery, you're going to want to acquire a good games collection to go with it. Again, anywhere you look for the right equipment at the right price would be a good place to check out for software and there's a fair chance that you'll get some software bundled with your techno-steal, though this might not be to your tastes. In fact, you can risk the high street in your search for good games and get at the majority of companies' back catalogue reasonably cheaply. The budget scene is in a very healthy state, with both new and re-released beauties on offer from £3 a shot. Then there are the compilations. These are either thematic (sports, shoot-'em-ups and adventures) or portfolio style packages of companies' best efforts. The more expensive of these tend to cost around £20-25 for five games however, so it would be wise to make sure you've scoured the budget stuff before you make a buy.

Sean Masterton

PC



• The MF356C, the new 4Mb standard half-height 3.5inch FDD from Mitsubishi.

GOING UP IN THE WORLD

The numbers of the chips hanging around my spare bedroom have taken a marked upward turn in the last few days. First came a 80386SX card from Hypertec.

The Hyper 386SX is a tiny board which plugs into the 286 socket of a PC AT and turns it into a 386. Sounds unlikely? Well I'm pleased to report that it seems to work fine, converting my 12MHz machine painlessly into a 386 without so much as a software driver in sight. I'm hoping to get hold of a Sota board which does the same thing in a day or two, so I'll give you a full report then. Meantime you can get more info on 0672 63709.

PLUS 100

The other power chip to turn up did so inside an AST Bravo 486/25 which, as you might well guess, contains an i486 chip running at, surprise surprise, runs at 25MHz.

I've never really had a chance to play with a 486 before, and I have to admit to being a little bit dissapointed. Now that is really no criticism of the AST, which seems to be a very well built and specified machine with all the mod cons and such like one expects. No, the problem lies in the fact that the 486 is not that fast. It's not the quantum leap you felt when you upgraded to an AT, or even the super new multi-tasking twiddly bits the 386 added. The 486 is fast, but not much faster than a 33MHz 386 in tandem with an 387.

It just doesn't excite the way previous generations of technology have. Perhaps the 586 will do that when it finally makes it.

That said, the 486 will be the standard chip inside computers before long as soon as bulk manufacture brings the costs down to a more reasonable level. And if you are in the market for a 486, the AST Bravo is a very strong contender. It feels immensely solid and has nice touches like screws on the back which can be undone by hand.

Inside it has a large motherboard which contained all the VGA circuitry (supporting SuperVGA), serial ports, hard drive controllers on the rest. In fact a fully functional machine has all its slots free. The slots are ISA (AT) ones, which will cut down the cost but means that high performance peripherals are ruled out - a shame with such a highly specced machine.

The 486 chip itself is tucked away under the drive bays, and I did wonder a bit about ventilation and overheating problems, but I had no trouble at all with the machine.

If this is the way computing is going, I want one, but I can't quite stretch to the £2,495 AST is asking. If interested, phone the company on 081-568 4350.

BIGGER STILL

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OTHER SIDE

Games publishers don't quite seem to have caught on that the Cold War is over. The nearest they come is the recent spate of games from the Soviet perspective, but these ignore the fact that the Russkies aren't in the business of nuking us anymore.

However, if you fancy a crack at the NATO forces before they are finally withdrawn and go back to molesting young recruits, try *MiG-29 Fulcrum*.

This simulation of the Soviet attack aircraft is from Domark and has been, it is claimed, developed in consultation with TASS and was 'designed by the Kremlin'.

Missions include flights over the Sino-Russian border and finding a US sub trapped in ice. Diversions along the way include a mid-air refuelling manoeuvre.

The game will be out and about by Christmas with no price yet announced.

Stuart Anderton and Steve Patient

Spectrum

YULE AGAIN

Christmas is great isn't it. The fun, the refreshing break, the tradition. Talking of tradition, that olde Yuletide custom of collecting together a few games that no one wants to buy anymore, bunging them in a big shiny box and thinking up a spurious common theme they all just about come under is being ennacted again by every software house with lots of games in the cupboard under the stairs to get rid of.

Now US Gold has lumped five Speccy conversions of Sega coin ops in one package and called it, in a desperate attempt to appear hip and groovy, *The Master Mix*. The five games are *Turbo Outrun*, *Super Wonderboy*, *Crack Down*, *Thunder Blade* and *Dynamite Dux* which are all getting on a bit in the exciting fast moving world of Speccy software.

Turbo Outrun is the sequel to *Outrun* and was more of a clapped-out Lada than a Ferrari with it's pretty dull gameplay and distinct lack of thrills. *Super Wonderboy* isn't a technically jaw dropping conversion of the platform style arcade game but it's got a spooky kind of addictiveness that should keep your finger from prodding the reset button for a while. *Crack Down* is a birds-eye viewed maze shoot-'em-up-that's best played with a friend. *Thunder Blade* was the big Chrimbo game of two years ago and on the Spectrum it's a pretty faithful conversion. Unfortunately, the original arcade machine wasn't all that compelling to play and as the Speccy lacks the stereo sound, and the moving bits it's a decidedly flacid affair in my opinion. *Dynamight Dux* is about the best game on the package, being a lovely and fluffy action packed game which has stood up pretty well to the passing of time.

All in all though, it's a pretty poor package which doesn't come out too well when compared to all the other big shiny boxed compilations sure to be hitting the shelves of a retailer near you for Chrimbo. With it's rivals including titles that only seem to have been out a few weeks, the decidely old and fraying around the edges games on this one make the whole pack look well past its sell-by date.

CONVERSIONS

It's always encouraging to see brave programmers attempt to convert some hugely impressive 16-bit mega game into the slightly humbler, battle weary but still very capable confines of the Speccy. And when they pull it off, good games usually result.

Shadow of the Beast is the Speccy conversion of a very swanky and professional looking 16-bit masterpiece of recent times, programmed by Psygnosis. It's a fantasy slash-'em-up type thing with the requisit amount of evil monsters and dark forces out to stop the sword-wielding hero from rescuing the princess/finding the treasure/defeating the evil magician and all the usual whacky that go on in these sort of games.

The graphics that gave Amiga owners palpatations when they first saw it have been admirably carried over to the grainy monochrome detail of the Speccy's world, but really it's the gameplay with it's emphasis on exploration and simple puzzle solving that appeals. Basically it's not only a damn fine conversion, it's also ample proof that the Spectrum's days as a games playing computer are far from numbered.

BARGAIN TIME

I know a bargain when I see one and I've just spotted a truely corking one in the latest issue of *Your Sinclair*, where wily old adventure columnist Mike Gerrard is offering an opportunity to enter the world of adventure writing for a very small sum indeed.

He's somehow managed to blag a deak with Gilsoft over its new *Professional Adventure Writer Starter Pack*. This is the main PAW program that's turned out some of the bst Spectrum adventures over the last few years and with a manual to explain the basics.

If you get to grips with that a Technical Pack is also available, which lets you completely customise and generally mess around with your creations.

If you use the coupon from *YS* you can get the *Starter Pack* for only £7.95, which I don't think's much to pay for the means to write your own professional quality adventure. This is a veritable snip if I ever saw one.

MARK POKES

That aged regular contributor of hacks to this column, Mark Taylor of, Manchester, has sent in yet another batch of pokes for al you Multiface owners, the generous person, so here goes.

GAME/POKE/EFFECT

Super Hang-On
(Track one)/49909,201/Infinite time
(Track two)/49694,201/Infinite time
(Track three)/49676,201/Infinite time
(Track four)/49820,201/Infinite time

Midnight Resistance /
36480,0/Infinte hearts

Footballer of the Year
50264,0/Infinte goal cards

Action Biker
55679,0 +61266,0/Infinte sleep

As well as this Mark also offered the following programming tip which is a bit unusual so I hope you will be able to make some sense of.

If you POKE (`PEEK 23635+256*PEEK 23636+5`)0, any line that was on Line 1 will be changed to line 0 stopping people from editing it. If you wish to read it again just do the same poke but with ,1 instead of ,0.
I'm none the wiser but the usual large quantities of good tidings go to Mark!

WANTED: ANYTHING AT ALL SPECCY RELATED

Speccy-related contributions are always wanted in these parts, otherwise I'm not really going to have a hell of a lot to write about. I'm keen to see software (big name stuff as well as independent back bedroom titles), fanzines with Spectrum coverage, details of user groups as well as comments and criticism on the column and any other issues you feel are at all of any interest to the great Speccy-going public at large today.

Tips are welcomed with trumpet fanfares and cheering, so if you've got knowledge to impart on any software (pokes and cheats for games, user wrinkles and info for serious stuff etc) please send everything relevant to Robin Alway's Spectrum Column at *New Computer Express*, 30 Monmouth St, Bath BA1 2BW.

I look forward to hearing from you all soon.

Robin Alway

ST

US - BUT WHAT ABOUT US?

The obvious question then, is when do we in Europe (or Yurp as the Americans insist on calling us) get to see the new machine? Atari UK is refusing to say a word, insisting that what Atari US does is none of the UK branch's business (can you believe that?).

Clearly we're looking at 1991, a year I predict will see the turning point in Atari's fortunes. There are several indications that the company is trying hard to put behind it the stupidity and incompetence that marred its performance throughout '90.

The whole thing still hangs in the balance, of course, and Atari has tested the long-suffering patience of its customers to the limit. Another screw-up like the STE fiasco (see *Express* passim) and we all start to look elsewhere for our next computer investment. But I live in hope.

THE ST VIDEO REVOLUTION

Syntronix has announced the imminent launch of a range of specialised interfaces for digitising and outputting to video tape.

Among others, Syntronix is offering what it claims is the ultimate Atari recording system, using the high quality RGB signals provided by the ST. Super VHS and Hi8 models are offered which give 'awesome clarity and power' to the animator, illustrator and cartoonist.

And results can be outputted on replay from the VCR back into the ST's own monitor in RGB form for outstanding reproduction. According to Syntronix, "This revolutionary product eliminates the need for Super-VHS compatible Genlock devices and saves the user hundreds of pounds in extra special Super-VHS television sets, saving even more money" - which can't be bad.

The price is £229.85. There is also a professional RGB splitter, which is said to improve the results when used with digitising software, compared to conventional RGB splitters, at the same price.

For more details, call Syntronix on 0332 553024.

LETTER FROM ANOTHER COUNTRY

Someone once said that the past was another country. I can't be sure, but I think it was me, just then.

Anyway, my thanks to Paul Cheverton, inhabitant of Shanklin on the Isle of Wight, for his nostalgic letter. Like many others, Paul splashed out the cash for an Atari 400 (remember them?), just for the pleasure of playing *Star Raiders* - an 8K (8K!) cartridge game of what might kindly be called 'chunky' sprites and frankly sparse sound effects.

"Ah yes," writes Paul, "I remember it well... playing into the early hours of the morning, desperately searching for the Mother Ship when your long-range radar is down and you are low on fuel. I dare say Beeb owners have the same memories about *Elite*."

Technology has moved on, Paul continues, and many Ataris later he's had a lot of fun and use out of programming, graphics and DTP. Kids have also come along (not, I think, the

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fault of Atari) and music is next on his list for joint experimentation. "But nothing has ever quite matched the total escapism of that very first game. Perhaps it really was a classic piece of gameplay, or maybe, because the whole technology was so new, the effect was so total."

Paul doubts whether he'll ever recapture the thrill of catching up with a squadron of Zylons at three in the morning, giving them a good blast of photon torpedoes and flying on through the debris.

•The new Mage STE: Why bother with a Mac when you can have all the power of this baby, without having to splash out all that money (though, to be fair, this one isn't exactly cheap either)

Ah yes, those good old days. I wonder what the answer really is. Are games better looking but not as playable these days? Or is Paul just being a little too romantic?

My own theory, for what it's worth (about 7p) is that programmers just simply have too wide an audience to keep everyone happy. Remember, they have to bear in mind not just people like Paul and others who've seen hundreds of games and still need to be impressed and tested, but also people who are bemusedly looking at their very first ever computer game and thinking, 'What the hell's going on here?'

And then there are others who blandly insist that computer games have never been better, and we should all simply stop moaning and hankering after the past.

Still, I would be very grateful for any light you, dear reader, or anyone else you know, can shed on the whole mystery. Write to: 'Blast From The Past', Steve Carey, 30 Monmouth St, Bath BA1 2BW.

ATARI TAKES THE INITIATIVE

The announcement from Atari in the States (see *Express* news pages last week) of the launch of the new 16MHz Mega STE is bold, impressive and deserves warm congratulation from anyone with an interest in the continued success of the ST series, which presumably includes you.

Not only was it time the increasingly knackered-looking Mega series was phased out – something that's been stated in this column half-a-dozen times over the past few months – but more importantly, it indicates Atari's renewed determination to present the ST as a serious (what the Murcans call a 'productivity') machine.

Above all, the introduction of that 16MHz element – twice as fast as your ST – is causing considerable excitement among ST watchers. Without getting into the 'my machine is better than yours' bollocks, this easily outpaces anything the Amiga can do.

Not that the new Mega STE is likely to be anyone's idea of a games machine. Its introduction with the new 'budget' Atari laserprinter and bundled with any one of a variety of DTP packages indicates exactly at whom this machine is aimed.

Atari's timing could hardly be better. The recent announcement of Apple's price-slashing on its cult Macintosh series clearly places more pressure on Atari's attempts to get the ST taken seriously as a DTP machine.

But the advantage the Mega STE has is obvious: output. It's no good rushing out and buying a Macintosh Classic if you're still faced with the prospect of spending twice as much on any kind of decent printer.

What's really attractive is being able instead to buy yourself a $3,000 bundle that includes hardware (including the superlative Atari monochrome monitor), printer and real DTP software (ie *Calamus*).

"CHEEP" SOFTWARE

A query from Sue Williams of Ilkley in Yorkshire. "I've ordered a couple of Public Domain software catalogues," she writes, "and one thing puzzles me. What exactly is Budgie?"

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It's no real surprise that most reports of the conclusion to the long-running saga concerning the "look and feel" copyright lawsuit brought by Lotus Development Corporation of Boston, against **Paperback Software International Inc.**, of Berkeley California have tended to emphasise the sensational, and avoid important details. New Computer Express was no exception.

But by being incomplete, these reports have allowed a very misleading interpretation to be placed on the actual event.

The fact is that **Paperback Software UK Limited** has not been and is not involved in any way with the corporate and litigious affairs of Paperback Software International Inc., of Berkeley, California. Paperback Software UK Limited is an independent UK owned company that publishes, co-publishes and distributes a broad range of software, from a variety of sources. *VP-Planner* happens to be one of these titles.

Paperback Software UK Limited endorses the views expressed by Lotus, encouraging competition, creativity and innovation in software development. That's why Lotus developed 1-2-3 from the original concepts of Dan Bricklin's *VisiCalc* software, and VP-Planner built on the Lotus standard, but also included additional features that have subsequently been adopted by Lotus and others.

There has never been any question whatsoever that the code and programming of VP-Planner has been in any way copied or reverse engineered from the code of 1-2-3. We take strong exception to the innuendo in the use of the word "theft" in the press release issued by Lotus.

The issue for us - and you - should be that of the functionality and value of the software. This aspect has been a casualty of the war of litigation between Lotus Development and Paperback Software International, being far less interesting for bloodthirsty journalists, seeking to highlight the confrontational and melodramatic aspects of the case. And all the while Lotus has been busy teaching PSI a lesson in the economics of US litigation, MicroSoft with Excel, and Borland with Quattro, have been making considerable inroads into Lotus' dwindling market share.

The user interface developed by 1-2-3 is a minor technical aspect of the software; but at one point in time, the encouragement offered by Lotus - and virtually demanded by journalists - to conform to what many described as the "industry standard" suddenly became an 'infringement of copyright'. It is the work of an afternoon for the developers to change it...

In fact, we were relieved to realize that the shackles of Lotus conformance, required by PSI for the US marketplace, had been cut loose by the decision of PSI to submit to Lotus's demands, and return the exclusive rights to the 1-2-3 interface to Lotus.

But where does Digital Research now stand with the question of DR DOS and MSDOS? What does this mean for IBM and all those who chose to borrow the look and feel of the IBM PC? When proprietary environments like Windows and the Apple Mac interface positively make a virtue of their consistent look and feel, just who are we all to believe any more?

But there is one thing of which you can all be certain. Paperback Software UK Limited is most certainly not stopping selling superior spreadsheet (and other) software at prices that make large publishers, with large overheads and large expenses, wince. We have many innovative features in development that can be made simpler, faster and more intuitive by taking a more logical approach than slavishly following a 1-2-3-like interface.

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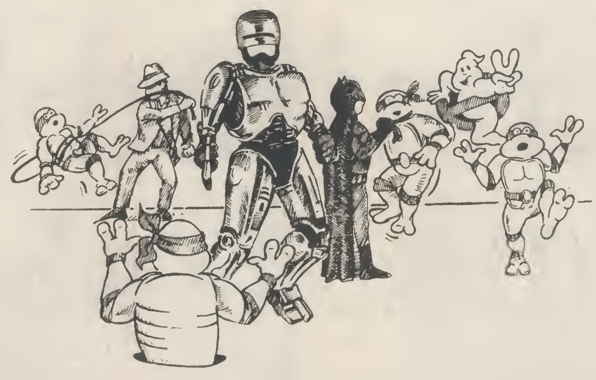

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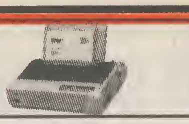

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Now I'm glad you asked me that, Sue (otherwise this week's column would be a bit short). Budgie UK is a kind of software shareware group, originally founded, I believe, back in 1987 by a couple of enthusiasts named Camy Maertens and Simon Rush. The whole thing is based on the novel idea of licenceware - in other words no library is permitted to stock Budgie titles without a licence, and for each title stocked a royalty is paid to the authors.

Now there are almost 30 programmers in the Budgie team, and in all over 80 releases have been notched up - indeed, it claims to be the world's largest programmers' group of PD/licenceware. And, as if to underline this, the 100th title is expected some time in the new year.

You might think, with such an excellent reputation and high sales, that Budgie is a big money spinner and all concerned are millionaires. In fact they're not. Apparently, each quarter the Budgie authors collect a total of just £600 from the 32 licensed PD libraries - this is really not a lot, when you think about it. These royalties are then divided equally among all the respective authors, with one share per title written, to maintain the touching democratic spirit of the enterprise.

Finally, Budgie boss Camy Maertens has written to me recently to complain about a 'serious omission' in virtually all reviews of Budgie titles. "It is a matter of courtesy to acknowledge his existence," Camy writes, wondering why the author rarely gets his due credit.

Fair point, although I really have to admit that I've rarely seen any review of, whether of PD or of commercial software, that actually mentions the name of the programmer, so Budgie are hardly being singled out.

A DISGRUNTLED ST OWNER WRITES

And finally, Peter Mead of Wallington in Surrey writes to express his disbelief at the revelation in this column recently that Atari has changed the method of upgrading the STE's RAM – removing the sockets that allow a simple upgrade by plugging in the SIMM modules the old STE had.

"This is very shortsighted of Atari," Peter goes on, "since this was one of the benefits of the STE that the company pushed when it was first launched."

Peter also goes on to speculate that Atari's reason for doing so can only be one of naked profit, since anyone wanting a 4Mb machine would have to buy a Mega 4, rather than buying a 520STE and four 1Mb SIMMS and fitting them him or herself.

Atari so far has not commented at all on its reasons for changing the internal hardware of the STE. But I would not be at all surprised if Peter were right.

NEODESK IN THE CLEAR

Finally, a couple of weeks ago in this very column I was praising the wonderful *Neodesk 3*, (the *ST Desktop* replacement in case you didn't know), but complained that I had been unable to get it to work with *Protext v5*. Well now I'm glad to say that I've solved the problem

I therefore wish to recommend *Neodesk 3* unreservedly. It costs £39.95, and believe me it's worth every penny.

Call Electric Distribution for your copy on 0480 496666. (Incidentally, if you find *Neodesk* appears unhappy with any program you run, call Electric's excellent help-line - details will be revealed to you when you buy.)

Steve Carey

Macintosh

THE DISCLAIMER

Neither the author (me), nor Future Publishing, is in any way responsible for any damage which may occur to you, your Mac, your files or the world's ecology if you follow any of the suggestions below. You should always work on copies of applications, never originals. Make sure that you have backups of your System and Finder before you attempt to do anything to them. Oh, and devout prayer helps, too.

ON WITH THE SHOW

This week, we'll be looking at some of the customisation that you can do to your Macintosh. This bit may be boring, but it helps to know it. So don't skip ahead, read carefully.

Every Macintosh application consists of two distinct parts (known in Mac parlance as 'forks'): the data fork and the resource fork. The data fork contains... (go on, have a guess). It's the resource fork that we're interested in. This contains all the messages, window shapes, menus and so on that the program will use. The benefit of this to us is that it means that things like icons, menu entries and warning dialogs are readily accessible. All that we need is something called... (fanfare) *ResEdit*. This is a program developed by Apple to allow programmers to create resources for their programs – but it's usable just as easily by us. You should be able to get it from any reasonable PD library, bulletin board or Mac fanatic; the latest version is 1.3, which you should use if at all possible.

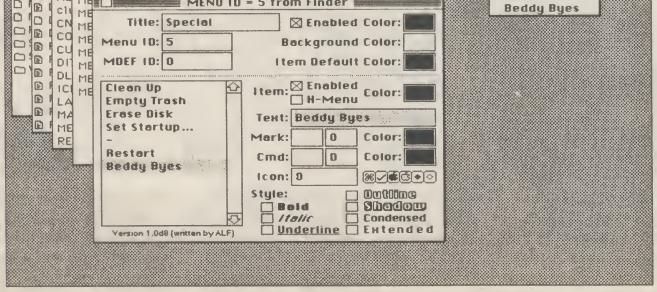
MENU MASTERS

Okay. A lot of the fun of using the Macintosh is the exploration, so I don't intend to tell you how to do everything. But *ResEdit* is easy to use once you get the hang of it, and you can't do any permanent damage if you only work on copies of your files. So, with that in mind, I'll tell you how to do a couple of things, and let you experiment with the rest.

First, start your Macintosh up under the Finder, and not under MultiFinder. That's because we will be changing the Finder file, and you can't do that with MultiFinder. (Remember, make a backup copy of the Finder, just in case...)

Now, launch *ResEdit* by double-clicking. You will see a window appear with the contents of the top level directory of your hard disk displayed in it (if you've any other disks inserted into the floppy drives, windows will appear with their contents, too). Double-click on the System Folder and then, when the contents appear, find and double-click on 'Finder'. This will open up a window containing lots of four-letter abbreviations: these are the resource names. Find the one called 'MENU' and double-click on it. Lots of entries will appear in yet another window; these are entries for the individual menus that you normally see on the desktop. Double-clicking on any of these will bring up a display of how the menu looks, and altering any of the information will permanently change how the menu appears when you exit the program. So, for instance, if you find the 'Special' menu (just try each of the entries until you find the right one) and change 'Shut down' to 'Beddy Byes', then that's what the menu item will appear as in the future. Try changing one or two of the entries (if you've got a colour Mac, try altering the colour of the entries, too) and then click on the 'close' boxes of the windows until you get a message asking if you want to save the changes that you have made. This is your final 'bail out'; if you select 'No' then nothing that you have done will be kept. If, on the other hand, you chose 'Yes', then...

Assuming that you had the confidence to save your changes, Quit *ResEdit* and the program will return you to the desktop. Now you can look at the pull-down menus and see how your changes look. Remember that if you don't like the look of any menu items – perhaps they're too long, or too boring – you can just repeat the procedure above and alter them again. And if you want to return to the standard menus – well, you did keep a copy of the Finder, didn't you?



Title: Special
☒ Enabled Color:
Menu ID: 5
Background Color:
MDEF ID: 0
Item Default Color:

Clean Up
Empty Trash
Erase Disk
Set Startup...
-
Restart
Beddy Byes

Item: ☒ Enabled ☐ H-Menu Color:
Text: Beddy Byes
Mark: 0 Color:
Cmd: 0 Color:
Icon: 0
Style: ☐ Bold ☐ *Italic* ☐ Underline ☐ Outline ☐ Shadow ☐ Condensed ☐ Extended

• ***Editing menus is a simple task in* ResEdit.**

ICONS AND THINGS

Menus are just some of the things that *ResEdit* allows you to alter. Among the others are icons and dialog box messages. *ResEdit* allows you to open any application and change things around; just remember that you should always work on copies – never on originals. Experiment with the program – it's one of the most powerful tools available. The worst that you can do is trash an application so it won't work.

The resources that you're looking for are things like DITL and DLOG (which describe how windows and dialog boxes look, and the messages which are displayed when the dialog boxes appear), STR#, which are lists of strings for things like the 'About' information, and ICON and ICN#, which are icons for the program and any documents that it creates. To edit icons, just double click on them until they appear as large versions of themselves. Then clicking on a white space will turn it black, and vice versa.

QUESTION TIME

Don't despair if some (or all) of the above seemed unclear on the first read; playing with *ResEdit* for a while should clarify things. If you've any questions, or are not sure how to change something, just drop me a line c/o *Express*, and I'll see if I can help.

POSTCARD FROM AMERICA

Having caused your brains to explode, let's finish on a lighter note. Once again, David Morgenstern looks at the lighter side of American Mac-life.

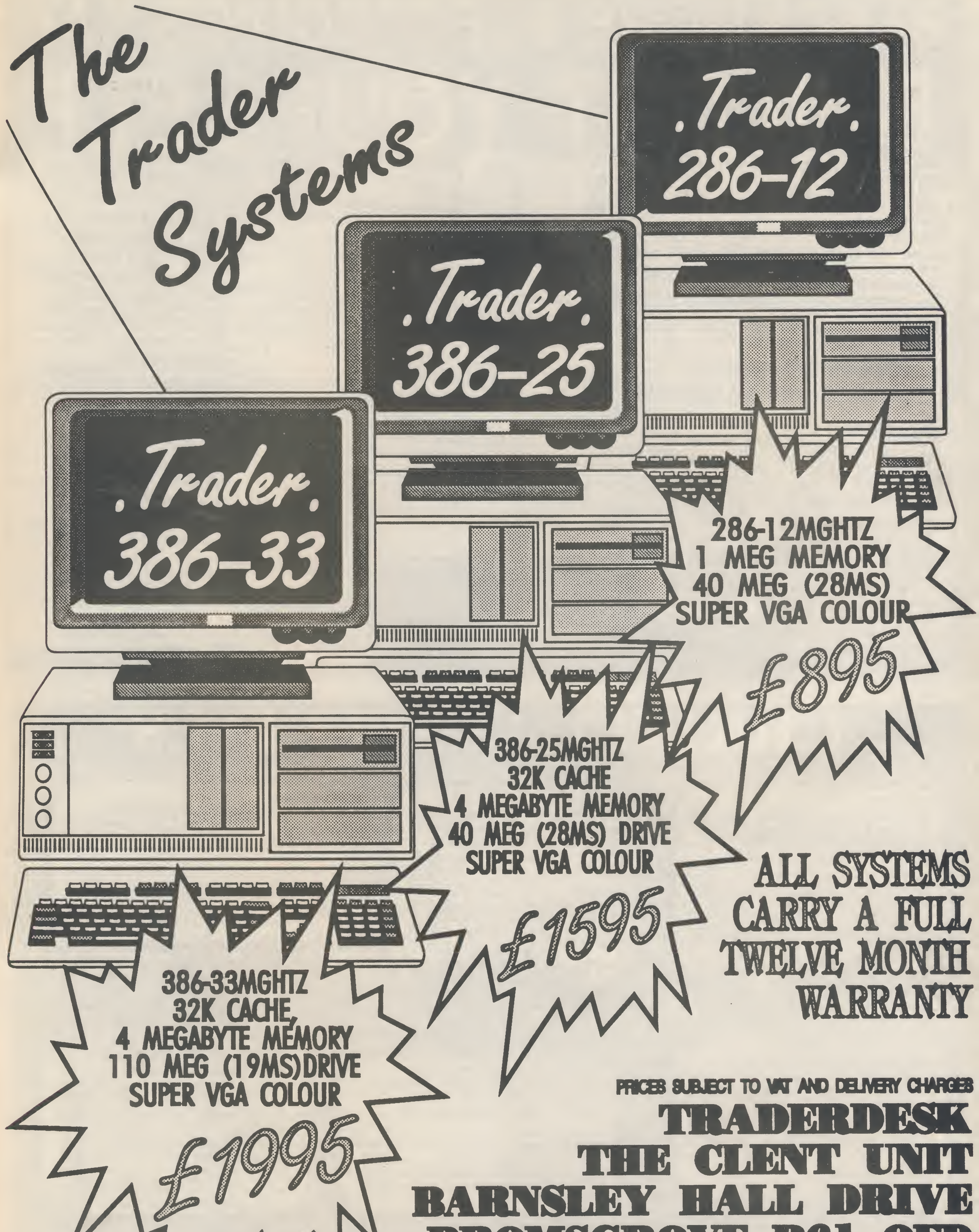
"Security is not what it once was at product introduction love-fests. It used to be that gatecrashing a new computer rollout was like sneaking into a private briefing for heads of state. Nowadays almost anyone can waltz through the front door.

"The only known crasher of the 1988 NeXT introduction was a member of the Berkeley Macintosh Users Group (BMUG). The need to see St Steve's black box was so great he dressed up as a waiter, and walked in with the caterers carrying a tray of food. After a quick change of ties – a nerd was born.

"The most recent NeXT debut's door was so loose that an elderly couple of Swedish tourists strolled into the hall. After the explanation of the event, the wife translated for her husband, they looked at each other with a weary 'why-are-computers-in-the-Symphony-Hall' expression, and then walked out without another word. Among the supposedly exclusive software developer dignitaries, and desktop bigwigs, at the new Macintosh debut was an infamous hacker, Harvey, who is known for his ability to find a heavy-duty bug in one mouse-click. He can glance at a program and instantly bring it crashing down hard to the silicon canvas. Harvey's name-tag claimed he was a 'Rocket Scientist'! Fortunately, there was no report that any of the new Mac models on display wound up as ground zero to his digital missiles.

"Contrary to certain press reports, the Mac II'si' does not stand for 'simply irresistible.' Rather, it means 'slim integrated' for the slim design, and integrated video circuitry. This information came straight from a presenter's mouth – for what that's worth."

Ian Wrigley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OPENING TIME

Startling news reaches us from our transatlantic cousins. Darling Timothy has gone missing in the Louisiana swamps after a long and fruitless search for the original Southern Comfort bourbon still. It's believed he was led astray by the Cajun chefs who were supposed to be looking after him and he hallucinated after over-imbibing at a Giant Hog Roast. Apparently he was convinced he was possessed by the spirit of Jack Daniel's and fled into the wilderness screaming something about catching the last train to Clarksville. Since then there's been no trace of the chap.

In his absence I've agreed to guide you through another stunning episode in the Great Centrefold Saga. And who am I? I am none other than Hector Mandelbrot (pronounced Mandela-bro), English cousin of the man who invented nature and the funny-looking snowy lines you get in between TV channels.

In fact, cousin Benoit has me to thank for his original discovery. Had it not been for my impromptu upending of a cup of cafe-creme into his sock drawer, I don't think he'd have ever become obsessed with Brownian motion. After admonishing me for my clumsiness he started ranting about self-perpetuating stains and how he'd never shift them. It took him three Macs and a MiniTel system to deconstruct the stain algorithm before coming up with his five minute Fractal House pop video.

Anticipating worldwide acclaim, he was to screen the said video at the Institute of Virtual Realities and Trippy Graphics in New York. Sadly it never took off, thanks to a butterfly in South Africa that flapped its wings at the same moment as my dear relation stepped up to the podium. The hurricane that swept through the building injured several VIPs and covered Rhode Island in Cantor dust and I think poor Benoit felt responsible. Apparently he's given up the whole fractal thing now and is working on a way to prove that gravity is a marketing trick used by Atari to make small, fiddly Portfolios seem a good idea.

But for now we must leave poor Tim and Benny to fend for themselves. This way to the rest of the Centrefold...

Tim Smith's CENT

Write to 30 Monmouth Street, Bath BA1 2BW (If you dare)

Letter Spray

Want to see your name in print? Then write to Centrefold. This week's replies by Hector Mandelbrot.

The interactive part of Centrefold, where you get to send in your witty, computer-related views, and we get to mercilessly rip them apart. No, no. I mean we get to discuss them, in full, like rational adults, over a cup of tea and a bun, maybe.

Dear crypto-facist (sic),

I would like to alledge (sic) that the so-called "Eighteen Legged PC-Compatible Goat" in issue 57 did in fact only have 17.3 legs and was only 73.472% compatible. Come on *NCE*! This kind of lily-livered leftie slacking isn't good enough! I think our one time technician, confidant and general great bloke Roger Kirkby had it right when he said "P*ss off, I'm 'avin me lunch!" I would also like to point out that the "Teenage Mutant Moron Mumblers" should have their legs ripped off with a rubber truncheon.

Yours, Brian Sivyour (Ron)

Firstly, Brian, I am not a crypto-facist. I have never had anything against faces and I've never made any secret of the fact. Secondly, the user-selectable 0.7 legs on the PC Goat invariably confused the less-able owners, but they were there, believe me. And finally, with regard to your suggestion for removing Mumbler legs, I don't think they'd fit the Goat. You'd be better off trying with Roger Kirkby's. Please wait where you are, don't move and don't be afraid of the white-coated men that I'm just sending round now.

Hier Smith, (Eh? Today *Smith! I think you mean "Herr"*),

I would much prefere (sic) it if Centrefold didn't come complete with a wrap-around copy of *NCE*. Think of the environment, all those trees being chopped. I also think the picture you printed of the two naked women was a poor atttempt to get readers writing. The least you could have done was put it in colour (letter degenerates into torrent of filth, self-abuse and auto-eroticism).

Pauric O'Callaghan

Fear not for the trees, Pauric, for they are not endangered by NCE. As it's a radical and hip mag, everything is recycled; the stories, the jokes, the adverts and even the paper. In fact the paper is a combination of highly-compressed naval fluff and thrice-threshed lavatory paper. It's even biodegradable (with a half life of 17,000 years) and can be used to light fires. With regard to the photo, you're wrong. It was an attempt to get readers writing poorly and your retrograde illiteracy proves it worked!

Tim (notice the absence of 'dear" in order not to offend your delicate sensibilities)

In the beginning there was IBM and it looked upon its work and saw that it was good. (*Oh god, I know how this is going to turn out*). And IBM said unto the programmers "Hearken unto me, all ye systems analysts and program designers, for I have created the PC and from this day forth it shall be Standard – with an 8088 or 8086 CPU and 640K RAM" (*I was right!*).

And thus IBM laid down the one great commandment to programmers: "Let everything be compatible." And it was so, until a new force arose and the 80286 and 80386 processors came to pass. And all those who programmed rejoiced in the new chips. (*So? Get on with it!*)

But IBM grew wrathful and gathered the multitudes and declared "All ye unfaithful denizens of the computer world – Do ye not remember the first Great Commandment? Let all that can run on a 386 CPU be also able to run on 8086 and 8088 processors. Cast thine eyes on *Windows*, *Windows 286* and *Windows 386*. Do ye not see that they are three different programs? (*Yeah? Who cares?*)

But this time the programmers did not acquiesce. One among the many arose and turned to his brethren and said "Yea, but hearken unto me, brethren, for downward compatibility sucks. Should we not use these gifts that Intel has given us and exploit them to their full capability?" And for this oration the blasphemer obtained a round of applause. (*I really don't know how much more of this I can take. How about you?*)

But IBM, seeing that its dream was shattered, waxed wrathful but did not prevail. And the lesser beings with 8086 and 8088 CPUs crept away and were never seen again. Amen.

Yours sincerely, Daire Quinlan

Erm, yes. There's not a lot to add really, is there? You have successfully carried out your own self-character assassination. Do you have many friends? Please don't ever, ever write to me or any other public organ again or I shall call the police. I've had a gutful of letters for today so that's it. Sod off and read something else.

THE TOSH TEN

This week we bring you ten uses for that poor old Sinclair ZX Spectrum that's been gathering dust at the bottom of your wardrobe for five years.

1) Pretend it's really a Portfolio by carrying it around everywhere and forgetting to use it.
2) Peel off the rubber key-mat and re-sole your shoes
3) Use it to form-feed the thermal ZX printer you've installed in the bathroom as a toilet roll holder.
4) Tie it to a broom-handle and use it as a spade.
5) Nail it to the wall outside your house to confuse salesmen who'll think it's a door-entry intercom.
6) Write a rude message on the back, bung a stamp on the front and post it to Mr Q. Wertyuiop.
7) Use it as a tea-tray (in large families, use it as a combined drinks coaster and peanut holder).
8) Cause chaos on a Saturday morning by attempting to insert it in the cash-point machine .
9) Tape it to a ruler and use it as a back-massager.
10) Tear out the innards, bung them into a box and try to sell the thing in Russia (maybe this one's a bit too silly).

CAPTION FULL STRENGTH

Has this man flipped his lid? Does he have something against monitors or computers in general? Is he just trying to avoid possible conscription by a demonstration of his inability to select appropriate targets? You tell us.

Send your witty, original and trouser-wettingly funny captions to: "Think it over, creep – I have a wild mouse in my pocket" compo

TREFOLD

DESPATCHES

Every week, Despatches bring you news from around the world, written by the world's greatest roving reporters. This week we bring the final communique from Sir Tim of Smith, now hopelessly lost during his tran-American expedition.

Dear Herbert (or is it Hector?),

I hope things are going well with the Centrefold. I'm a bit worried about Tarquin's over-zealousness with the quill and I still wake up in a cold sweat thinking about you and your incredible propellor-headed outlook on life. Why, oh why, didn't I get Jonafon Woss or Ben Elton? Anyway, what's done is done – on with the news.

Day One: Arrived in NY and was instantly set upon by a bunch of Baltimore hoodlums with magnets who've managed to trash the diary section on my portable PC. I now have no idea what I'm supposed to be doing here. Met with Joe Sixpack (my guide, and our man Stateside). Trekked back to the hotel and got fairly blitzed during a long discussion on the principles of bio-computers. Had a spot of bother with the hotel detective who caught me wandering round the corridors in my Stars and Stripes boxer shorts. I think I might be in trouble.

Day Two: Sixpack and I missed the power-breakfast with Steve Wozniak, thanks to a night in the NYPD's cells to dry out. No charges pressed, as they thought I was merely a "harmless Limey eccentric". Instead we went for a quick jaunt across country to Kentucky. We commandeered an old ex-army charabanc by showing the hippy driver a printout of the presidential seal we'd screen-grabbed from an anti-drugs arcade game. He believed our "we're off to thrash Saddam, sonny, and you can help" story and even gave us some Peyote cactus buttons which had "helped him in 'Nam."

Day Three: Reached Kentucky just in time to see the Jim Beam distillery close for the night. Sixpack wept openly at the prospect of an entire evening without intoxication, so after much consideration we've decided to pop the Peyote to help us through.

Day Err..Five? Hell knows! Everything is so blue. And big! Sixpack has gone now and left his purple grizzly bear to keep me company. America is really, really big! Even the ants are big. I think I'm losing my mind. Wow! Sixpack's bear has gone now, and there's just a big void left in its place. No. Wait. Something's forming out of thin air. It's black and white and it's got flashing blue and red things on its head. I think it could be a Blue Meanie! Ahh! Glove? Where are you? I'm going to be sick.

Day Something: Managed to avoid capture by the local feds by grabbing the tarpaulin of a passing garbage truck. Woke up this morning in Lousiana, covered in fish-heads and old copies of *Pop Comp Weekly*. Fell off the truck during a particularly nasty dizzy spell and came to rest on the doorstep of the LaFayette family home. These odd, pidgin-French speaking folk have invited me to stay until I get better. I still don't feel quite with it and I keep thinking I've got to meet Sixpack somewhere in Tennessee. I think we're supposed to be visiting the computerised bottling plant at the Jack Daniel's factory, but I can't tell without my diary. I'll think about it later. There seems to be some kind of barbecue party going on outside and I don't want to miss it....

THE CHARTS

This week we have the fav games of Benoit B. Mandelbrot, Fractal genius and cousin to your humble scribe. Take it away Ben...

1) *Chaos Strikes Back* (zis ees ma favourite, as eet explains ze equation x maps to lambda x(1-x))

2) *Powder Drift* (I like ze way ze cars tend to infinity after a glass or deux of Chateau Fatou)

3) *Trip-A-Tron* (zis, I like a lot, even eef eet's over-scientific. Ah luv ze colours, homme)

4) *Dragons Breath* (zis ees, a reference to ma self-squaring Peano Dragon, which molts a lot)

5) *Corruption* (I get zis all ze time when I use ma PC in ze Magnetron at ze Universite)

6) *Zoom* (wizout zis, I could never have seen the weird zings zat lie in my Mandie-sets)

7) *Typhoon Thompson* (zis shows how petit boys on hover boards can upset ze delicate eco-system)

8) *Galaxy Force* (we 'ave a lot to learn from ze detailed study of chocolate and uzzer natural phenomena)

9) *Virus* (ees like life, zis one. One moment your deesk it work, ze next, boff! Is dead! Zut Alors!)

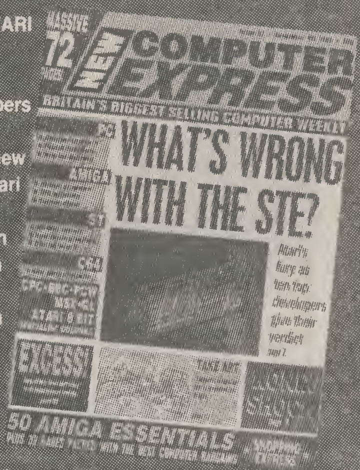
10) *Never Ending Story* (a beet like ma fractals and a beet like moi, zis one just goes on and on and on).

FROM THE ARCHIVE

I'm not one for harping on about the good old days and delving into the past (except for where my dear old inventing uncle is concerned). But a Mandelbrot's got to do what a Mandelbrot's got to do . . . so this is what was happening a year ago and very interesting it is too.

WAR OF THE WORMS

NASA was on the receiving end of a virus attack by anti-nuclear protesters this week. The Fu Manchu virus was found on computers which were destined to relay info back from the nuclear-powered Space Shuttle. An estimated 6,000 terminals were infected with messages like "You talk of times of peace for all and then prepare for war" and "WORMs against nuclear killers".



CRITICS GET ATARI STE-AMING

After ten top software developers told *NCE* their opinions of the new STE machine, Atari hit the roof. Apparently all ten were subject to a non-disclosure agreement which should have prevented them from talking to the press. Atari, threatening to recall all the developers' STEs, said they were "Furious, and you can print that!" Wonder what they'd have said if all the developers had loved the machine?

BLANK TO THE FUTURE

High Street retailer, WH Smith was testing a revolutionary shopping method for computer games. To save space on the shelves, they installed a computer in their Glasgow branch which copied games while-u-wait. The buyer simply supplied a blank tape, or bought one from the shop.

FOOD FOR THOUGHT

The worlds' greatest chess-playing computer, Deep Thought, was soundly thrashed by a human opponent. Chess world champion, Gary Kasparov (no stranger to Centrefold) trounced the 720,000 tests per second genius in 52 moves. Kasparov's only worry was that the machine would not have been intimidated by its defeat and would therefore be no easier to beat next time!

I WISH I'D SAID THAT

Have you heard any computer related mumbo-jumbo which has made you laugh, cry or attempt to hang yourself? It could come from an advert, a manual, an important computer-person or even a magazine.

"We do our utmost to ensure that every disk is 100 per cent perfect. Unfortunately...a tiny proportion will contain errors" *ST User*, December – the issue with the infamous Green Goblin virus.

"The balls grow larger as you get closer to the ground" – Chuck Yeager on the audio cassette with EA's *Chuck Yeager's Advanced Flight Trainer.*

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- Individual packages at £24.99 each, or all three for only £69.99 including a free menu system.
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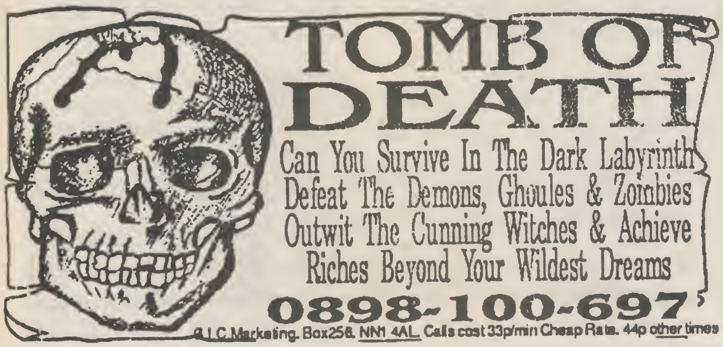
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EXTRA LYNX GOODIES

Atari US has released a new range of Lynx goodies, which it will display at this week's Comdex Fall show in Las Vegas. The add-ons include a $4-95 sun visor, a $19-95 large carry case and a small pouch-style carry case at $14-95.

The sun visor is quite interesting, as it connects to the Lynx using those four mysterious holes around the screen. The large carry case is brief-case-sized and has a large compartment to hold the Lynx, plus three smaller ones to hold the accessories that most Lynx users inevitably truck around with them. Cartridges, meanwhile, can be slotted in any one of 12 slots inside the cases cover.

The pouch-style carry case is very similar to the cases which are available for the Nintendo Gameboy, with a large compartment for the Lynx itself and two smaller pouches on either side to hold the cartridges. Down the side of the pouch is an area designed to hold the Comlynx cable.

The accessories should start appearing in Atari stores by the time you read this column, but - for the out of towners - Atari is offering a mail order service on 0101-408-745-2367. If you ask them nicely, they might even stretch to international mail order.

ISDN RELEASED

After almost a year of beta-testing, Hayes has finally released its ISDN card adaptor for the PC in the US. The unit costs $1,599 and supports the basic ISDN 2B Plus D standards as laid down by the CCITT international regulatory comms body.

Don't rush out and buy one just yet, however, as BT and Mercury are currently beta-testing ISDN services to selected subscribers in the UK, pending a roll-out of the service next February.

Even then, ISDN will only be available on voice and data calls within the UK, as the ISDN standard in Britain differs from other countries. Added to that, international ISDN data charging is expected be very expensive in the early days. I'll stick to my high-speed modem, capable of 26,000 bps over the phone network. Coupled with Mercury's reduction in self-dialled off-peak calls to the US to 40 pence a minute from December 1, it's a lot cheaper than even packet switching!

BRITELITE MAC PORTABLE

When is a Mac portable not a Mac portable? Answer - when it's Sparc chip-based portable. Trigem of Korea and RDI of the US have teamed up to develop the Britelite, an 8.5 pound battery-driven portable that uses LSI's Sparc chipset to run at an astonishing 12.5 MIPs.

This amazing bit of kit comes with 8Mb of RAM (expandable to 16Mb on board), single floppy and a range of SCSI hard drives. A choice of two backlit mono LCD screens are available, but the machine's finishing touch is the inclusion of a PC and Apple Mac emulation package within the firmware.

DOS emulation is no big deal, as it's been seen on other Sparc - driven machines. Mac emulation? That's a newie. According to RDI's San Diego headquarters, the emulation includes Mac ROM code in software but without breaking Apple's copyright rules. The company claims that the Britelite is 100 per cent Mac compatible. Pricing? Don't expect much change from $7,000 for a basic machine, rising to $10,000 for a full-blown turbo-nutter version.

TOSHIBA'S NEW TRIO

Toshiba will announce three new portable PCs at Comdex Fall this week - the T3200SXC, the T2000SX and the T1000LE.

The T3200SXC is based around a 20MHz 386SX microprocessor, driving a 10 inch active matrix colour display capable of VGA graphics resolution. Kitted out with 1Mb of RAM and a 20Mb hard disk, the machine ships from next March at $9,999 in the US.

Closer to sensible pricing, the T2000SX is based around a 16MHz 386SX microprocessor. The 7-pound portable is the first portable from anyone that runs on Nickel Hydride batteries, which offer faster charging and longer life than conventional ni-cad batteries. The $4,999 portable is available immediately in the US with a mono VGA screen plus 20Mb hard disk. Pushing the disk capacity to 40MB adds $500 to the price.

In the notebook stakes, the 80C86-based T1000LE is a 6.5-pound `notebook' system which comes with a 20-Mb hard disk and single floppy drive. The machine, also available immediately in the US, costs $2,499.

NEW LYNX CARTRIDGES

Atari Japan seems to be using the Japanese domestic market as a test-bed for new releases for the Lynx games system. New titles already out include: *Roadblaster*, *Upshot* (formerly code-named *3D Barrage*) and *Xenophobe*. Scheduled for release this week are *Klax*, *Paperboy*, *Rampage*, *Rygar* and *Zarlor Mercenary*, while upcoming for Christmas are *APB*, *NFL Football* and *Word Cup Soccer*.

Early next year releases include: *Chequered Flag*, *Grid Runner*, *Ninja Garden*, *Scrapyard Dog*, *Tournament Cyberball*, *Vindicators* and *Warbirds*. Of the four new releases out in October, *Xenophobe* is reported to be the most popular. The $34-95 cartridge involves travelling through space shooting at space stations and moonbases filled with aliens that have invaded them.

As with the arcade version of *Xenophobe*, there are nine bases to clear of the aliens, with each base having different floors and levels. Sounds like fun!

ATARI SCORES IN USSR

Atari seems to have done the business quite conclusively in Russia. Reports from behind the iron curtain say that the Tramiels have secured one of the biggest computer deals with the Soviets, involving STs and PCs, plus sackfuls of software.

Apparently, the Youth Centre of Eriwan has signed a deal with Atari worth a lot of money for Atari hardware at knock-down prices along with all the necessary peripherals and software. The systems will be used at the regional youth centre to train youngsters how to use computers effectively.

Two thirds of the shipment - expected to be the first of several to the USSR - consists of early 520 ST systems, while the rest is a mixture of Atari PCs and peripherals. This isn't the first time that Atari STs have been sold behind the iron curtain. At this year's Cebit Faire in Hannover, West Germany (March 1990) I bumped into Mark Muchnick of the Global Development Corporation from San Francisco. Muchnick told me that he was working on getting Cocom permission to export ST technology to Russia. Since this deal involves such technology, I presume he succeeded in persuading everyone to allow the ST to be imported in Russia where, incidentally, I gather the Commodore Amiga is still on the 'hot list' as regards Cocom technology.

COMPILE AMIGA SOFTWARE

Amiga owners will be pleased to hear that demonstration copies of a new Amiga compiler package are starting to appear on the US on-line systems, as well as a number of European BBSs. The compiler is called Oberon, with version 1.16 available in the public domain. The commercial version - v2.0 - is, expected to be launched very shortly.

Oberon is the latest invention from Professor Nick Wirth of ETH Zurich in Switzerland The package is, in fact, a compiler for a new language also called Oberon. The development of the language stems from a project to improve the performance and to reduce the complexity of the language Modula-2.

According to Wirth, the concept of type extension has been added to Oberon, providing object-oriented programming facilities comparable to those seen in Smalltalk and C++. At the same time, Oberon retains the notational conventions of Modula-2 and Pascal, claims Wirth. What's more, it also does it in one pass.

According to Wirth, Oberon's compiler can be used to develop small and large modula-type programs. Code re-use based on modular libraries is supported via the object-oriented features of the language, and any object previously defined can easily be adapted to new problems, he said.

The demo version, I gather, is fully-functional, except that it is deliberately limited to compiling short programs, as well as a few long programs which are supplied with the demonstration disk.

The full version - at a price to be decided - will be available from A & L, Im Ddderiz 61, CH-2540 Grenchen, Switzerland. Pricing however has yet to be confirmed. ■

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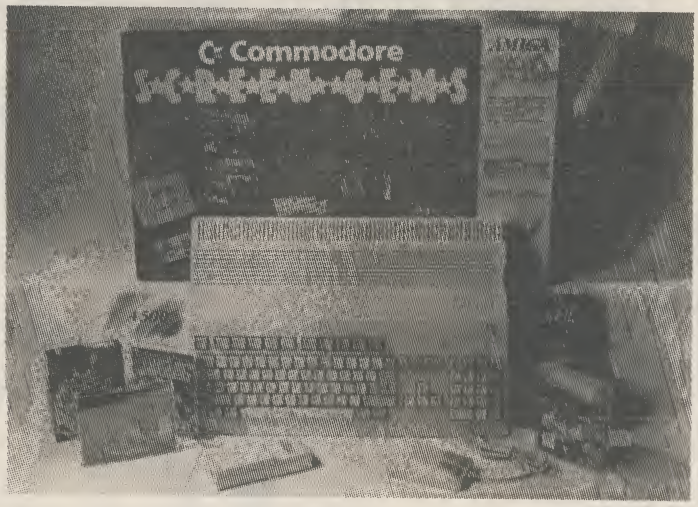

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The more observant among you may have noticed that we had a couple of technical hitches with the questionnaires we printed in the last couple of issues.

So here we are, The *Express* Questionnaire mark three. As an extra incentive, we're now offering a £100 cash prize for the best suggestion in Section Five for a really cool *Express* feature. For the runners up we are giving away five free subscriptions. But that's not all; the winners of the *Express* subscriptions also win a year's copies of the Future magazine of their choice – select from *Amiga Format, ST Format, PC Plus, Commodore Format, Your Sinclair, S* and *Amstrad Action*.

To have a chance of winning you'll need to get your questionnaire back to us by December 1. Send it in an envelope marked *'Express* Questionnaire' to *New Computer Express*, 30 Monmouth Street, Bath, Avon BA1 2BW.

If you have already sent in a questionnaire your entry will automatically be included in the £100 competition – please don't send in another form.

SECTION ONE: HARDWARE

What machine do you use the most at home?

- Amiga 500 ☐
- Other Amiga ☐
- ST ☐
- STE ☐
- Desktop PC ☐
- Laptop PC ☐
- Archimedes ☐
- CPC ☐
- Spectrum ☐
- C64 ☐
- Console ☐
- Macintosh ☐

Other (specify)..

What machine do you use the most at work/college?

- Amiga 500 ☐
- Other Amiga ☐
- ST ☐
- STE ☐
- Desktop PC ☐
- Laptop PC ☐
- Archimedes ☐
- CPC ☐
- Spectrum ☐
- C64 ☐
- Macintosh ☐
- Mini/mainframe ☐

Other (specify)..

What other machines do you have at home?

- Amiga 500 ☐
- Other Amiga ☐
- ST ☐
- STE ☐
- Desktop PC ☐
- Laptop PC ☐
- Archimedes ☐
- CPC ☐
- Spectrum ☐
- C64 ☐
- Macintosh ☐
- MSX ☐
- BBC Micro ☐
- PCW ☐
- Atari 8-bit ☐
- Console ☐

Other (specify)..

What other machines do you use at work/college?

- Amiga 500 ☐
- Other Amiga ☐
- ST ☐
- STE ☐
- Desktop PC ☐
- Laptop PC ☐
- Archimedes ☐
- CPC ☐
- Spectrum ☐
- C64 ☐
- Macintosh ☐
- Mini/mainframe ☐

Other (specify)..

How long have you owned your computer?

- Less than three months ☐
- Three months to a year ☐
- One to three years ☐
- Over 3 years ☐

What peripherals do you own?

- Monitor ☐
- Hard disk ☐
- Extra floppy drive ☐
- Modem ☐
- Printer ☐
- Memory expansion ☐
- Scanner/digitiser ☐
- Sampler/MIDI ☐
- Multiface/Action Replay ☐
- Joystick ☐

What peripherals do you intend to buy in the next year?

- Monitor ☐
- Hard disk ☐
- Extra floppy drive ☐
- Modem ☐
- Printer ☐
- Memory expansion ☐
- Scanner/digitiser ☐
- Sampler/MIDI ☐
- Multiface/Action Replay ☐
- Joystick ☐

How much did you spend on hardware last year/last two months?

	Two months	Year
Less than £50	☐	☐
£50-£150	☐	☐
£150-£300	☐	☐
Over £300	☐	☐

How often do you buy goods mail order?

- Regularly ☐
- Sometimes ☐
- Never ☐

How many times have you bought through *Express* advertisements?

....

How do you buy your hardware? (tick all used in the last year)

- Independent retailer ☐
- High Street store (Dixons etc) ☐
- Mail Order ☐
- Auctions ☐
- Classified advertisements ☐

How much do you expect to spend next year/next two months?

	Two months	Year
Less than £50	☐	☐
£50-£150	☐	☐
£150-£300	☐	☐
Over £300	☐	☐

Are you responsible for computer buying decisions at work?

- Yes ☐
- No ☐

Do you intend to buy a new computer in the next year? If so, what?

- No computer ☐
- Amiga 500 ☐
- Other Amiga ☐
- ST ☐
- STE ☐
- Desktop PC ☐
- Laptop PC ☐
- Archimedes ☐
- CPC ☐
- Spectrum ☐
- C64 ☐
- Macintosh ☐
- Console ☐

Other (specify)..

In an ideal world, which of these computers would you most like to own?

Amiga 500 ☐
Other Amiga ☐
ST ☐
- STE ☐
- Desktop PC ☐
- Laptop PC ☐
- Archimedes ☐
- CPC ☐
- Spectrum ☐
- C64 ☐
- Macintosh ☐
- NeXT ☐

Other (specify)..

SECTION TWO: SOFTWARE

What do you use your computer for at home?

	Main use	Sometimes
Games	☐	☐
Word processing	☐	☐
Spreadsheet/accounts	☐	☐
DTP	☐	☐
Graphics	☐	☐
Music	☐	☐
Education	☐	☐
Programming	☐	☐
Comms	☐	☐

What do you mainly use your computer for at work/college?

	Main use	Sometimes
Games	☐	☐
Word processing	☐	☐
Spreadsheet/accounts	☐	☐
DTP	☐	☐
Graphics	☐	☐
Music	☐	☐
Education	☐	☐
Programming	☐	☐
Comms	☐	☐

How much have you spent on games in the last year/last two months?

	Two months	Year
Less than £50	☐	☐
£50-£150	☐	☐
£150-£300	☐	☐
Over £300	☐	☐

How do you buy your games? (tick all used in the last year)

Independent retailer ☐
High Street store (Dixons etc) ☐
Mail Order ☐
Dodgy street markets ☐
Classified advertisements ☐

How much do you expect to spend next year/next two months on 'serious' software?

	Two months	Year
Less than £50	☐	☐
£50-£150	☐	☐
£150-£300	☐	☐
Over £300	☐	☐

How do you buy your 'serious' software? (tick all used in the last year)

Independent retailer ☐
High Street store (Dixons etc) ☐
Mail Order ☐
Classified advertisements ☐

Do you use PD libraries?

Yes ☐
No ☐

SECTION THREE: MAGAZINES

How long have you been reading *NCE*?

This is the first issue bought ☐
A few months ☐
A year or so ☐
Since the beginning ☐

How regularly do you buy NCE?

Subscriber ☐
Every week ☐
Two or thee times a month ☐
Once a month ☐
Occasionally ☐

What was you favourite article in this issue?

....

Rate the following sections of *Express* out of 10

News ☐
FrontEnd ☐
The Week in View ☐
Hardware reviews ☐
Software reviews ☐
Feature articles ☐
Games Week ☐
Competitions ☐
Machine-specific columns ☐
Express mail ☐
Centrefold ☐
Programming ☐
Circuit City ☐
Tech Tips ☐
PD Column ☐
Console Zone ☐
Whole Wired World ☐
Express On-line ☐
Reader advertisements ☐
Recruitment advertisements ☐

Which sections would you like to see more or less of?

	More	Less
News	☐	☐
FrontEnd	☐	☐
The Week in View	☐	☐
Hardware reviews	☐	☐
Software reviews	☐	☐
Feature articles	☐	☐
Games Week	☐	☐
Competitions	☐	☐
Machine-specific columns	☐	☐
Express mail	☐	☐
Centrefold	☐	☐
Circuit City	☐	☐
Tech Tips	☐	☐
Programming	☐	☐
PD Column	☐	☐
Console Zone	☐	☐
Whole Wired World	☐	☐
Express On-line	☐	☐
Reader advertisements	☐	☐
Recruitment advertisements	☐	☐

What other magazines do you read apart from *Express*?

Amiga Format ☐
ST Format ☐
PC Plus ☐
Amstrad Action ☐
Commodore Format ☐
Your Sinclair ☐
ACE ☐
The One ☐
Zero ☐
Raze ☐
Personal Computer World ☐
Byte ☐
What Personal Computer? ☐
Popular Computing Weekly (sorry, bad joke)

What do you like about them compared to *Express*?

....

....

SECTION FOUR: ABOUT YOU

All personal details will be treated in confidence.

Are you male or female?

Male ☐
Female ☐

How old are you?

Under 13 ☐
13-18 ☐
17-25 ☐
26-35 ☐
36-50 ☐
Over 50 ☐

What is your job?

....

How much do you earn?

Nothing ☐
Student grant ☐
£5,000-£8,000 ☐
£8,001-£10,000 ☐
£10,001-£15,000 ☐
Over £15,000 ☐

What county do you live in?

....

SECTION FIVE: PRIZE COMPETITION

My suggestion for a really good article in *Express* is (max 50 words) ....

....

....

....

....

....

Name ....

Address ....

....

If I win a runners-up prize I would like a subscription to *New Computer Express* and:

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Your Sinclair ☐
Commodore Format ☐
Sega Power ☐

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User group/Bulletin board (delete as applicable) Specialisation

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ATARI ST - Paul Glover, The ST Club, 9 Sutton Place, 49 Stoney Street, Nottingham NG1 1LX. 0602 410241.

BBC MICRO - BEEBUG, 117 Hatfield Road, St Albans, Herts AL1 4JS. 0727 40303.

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CD ROM - UK CD-ROM User Group, High Wings, Salem, Treforys, Abertawe SA6 1XX 0792 844 370

CHOICE on-line help. Telephone: 0308 23224 7-9 AM only for now.

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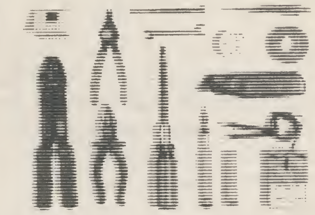
London Underground	081-423 2233	V21/22/22b/23
Loony Bin	0703 787489	V21/23
Mabbs	021-444 8972	V21/22/22b/23
Mach II Bbs	0242 260 685	V21/V22/V22bis
Mactel Hq (grn Box)	0602 455444	V21/22/22b/23
Mactel Metro	081-543 8017	V21/22/22b/23
Mactel Phoenix	0473 610139	V21/22/22b/23
Madness Bbs	0603 300947	V21/22/22b/23
Magic Castle Bbs	021-430 3761	V21/22/22b/23
Magic Mushroom	0361 83641	V21/22/22b
Magnum	0274 547006	V21/22/22b/23
Magrathea	0376 24402	V23v
Manor	0980 863031	V21/22/22b/23
Marctel	081-346 7150	V21/23/23v
Matrix	051-255 0225	V21/22/22b/23
Mbbs Leconfield	0964 550745	V21/22/22b/23
Mbbs Mitcham lic	081-648 0018	V21/23
Medway	0634 280031	V21/22/22b
Mektronic Cnsltnts	061-773 7739	V21/22/22b/23
Mercianet	0203 611943	V23v
Merkinstead	061-434 7059	V21/22/22b/23
Merlin	0443 834179	V21/22/22b/23
Mgbbs	0443 733343	V21/23S
Micro Live Bb	081-567 6500	V21
Micro Update	081-877 1529	V21/22/22b/23
Microdeal	0726 65422	V21/22/22b/23
Microlog	0422 71921	V21/22/22b/23
Microview!	081-509 0729	V23v
Midget Gem	0748 834836	V21/23
Midnight Caller	0633 279243	V21/22/22b/23
Mind Boggles	0362 762868	V21/22/22b/23
Mininet 3	0642 672813	V21/22/22b/23
Miracom Support	0473 232540	Hst
Mirage	061-652 1242	V21/22/22b/23
Mirror Ii	0628 810889	V21/22/22b/23
Mirrorworld/quest 1	0883 844044	V23
Mission Impossible	0602 654329	Hst
Mk Board	0908 311005	V21/22/22b/23
Mkbbs	0908 504556	V22/22b
Monkey Tree	0952 677002	V21/22/23
Monusci	0293 545665	V21/22/22b/23
Motor Exchange	0484 435314	V21/22/22b
Multi-bbs	041-649 9043	V21/22/22b/23
Murdoch'S Hangout	021-711 2620	V22/22b
Murky Cavems	081-426 9386	Hst
Mwcfe	0926 421844	V22bis
My Little Phoney	0865 773277	V21/22/23
Nicc Mid-west	0341 250377	V21/22/23
Nite Life	071-976 6807	V21/22/22b
No Escort Required	081-200 3817	Hst
No.1 Bbs	081-958 1689	V21/22/22b
Norpac	0434 608324	V21/22/22b
North Wales Bb	0978 88372	V21/22/22b
North Yorks Qbbs	0423 868065	V22/22b?
Northern Lights	0768 773685	V22/22b
Norwich Onion Bbs	0603 423305	V21/22/22b/23
Nova	0455 553371	V21/22/22b
Nova-net	0274 370760	V22
Odd-ball	081-679 2583	V21/22/22b/23
Open Access	081-427 3974	
Optix	0482 872294	V21/22/22b/23
Organic Garden	081-464 3305	V21/22/22b/23
Out Of The Blue	081-668 7667	V21/22/23
Owl Service	0532 605876	V21/23
P'S & Q'S Tel	051-236 3105	V21/22/22b/23
Pacific Lightning	0732 845338	V22/22b
Packet Bbs	081-547 1479	V21/22/2
Packet Place	0484 435620	V21/22/22b
Palm Beach	0303 265979	V21/22/22b/23
Pazaz Viewdata	0383 620259	V23v
Pc Access	071-608 0081	V21/22/22b/23
Pc Forum	0322 335348	V21/22/22b/23
Pc Serve Shop	081-864 2633	V21/22/22b/23
Pc Serve Softnet	0895 420164	V21/22/22b/23
Pc Serve Storehouse	0494 728094	V21/22/22b/23
Pc-vax Opus	081-800-3549	V21/22/22b/23
Pcamiga Bbs	0602 735119	V22/22b
Peacenet West	0895 448998	V23v
Pecan Software Bbs	0272 248076	V21/22/22b
Penguin	0943 830820	V21/22/22b/23
Phantom	0226 340425	V21v/22v/23
Phoenix	0249 817704	Hst
Piston Popper	0424 853361	
Plug-ole	021-472 0256	V21/22/22b/23
Plus And Minus	0559 322766	V21/22/22b/23
Poacher	0476 62450	V21/22/22b/23
Polynet Bb	071-580 1690	V21/22/22b/23
Port Of Call	081-391 5779	V21/22/22b/23
Power Play Qbbs	0698 423669	V21/22/22b/23
Power Tower	0533 880114	V21/22/22b/23
Prestonet	0772 612462	V23v
Project Bbs	0384 401770	V21/22/22b/23
Prometheus	081-300 7177	V23v
Proximity	0793 480028	V21/22/22b/23
Publishing Shop	091-261 5228	V21/22/22b/23
Purely Pc	0232 645942	V21/22/22b
Pyramid	071-239 0871	V21/22/22b
Pyroto Mountain	0895 59071	V21/22/22b
Really Interesting	0582 414991	
Reflex Bbs	0703 685527	V21/22/22b/23
Regency Bbs	0542 33050	V21/22/23
Remote!pcw	0555 851887	V21/22/22b/23
Rivendell	0602 640488	V21/22/22b/23
Rm Tech. Support	0865 796431	V21/22/22b/23
Road Runner	061-483 4105	V21/22/22b/23
Roamer I	0292 45345	Hst
Royalink Uk	0962 66807	V21/22/22b
SAC Bbs	0242 260685	V21/V22/V23/V22bis
Sas Bbs	0742 325232 Rb	V21/22/22b/23
Satellite Southwest	0392 53116	V21/22/22b/23
Saturn Bb	0282 23570	
Scabs	0909 479080	V22bis
Scary Monster	0734 320297	Hst
Scot Air	0505 36036	V21/22/22b/23
Scothelp-st	031-313 2734	V21/22/22b/23
Scottish Opus	041-880 7863	V21/22/22b/23
Scottish Wildcat	0674 671141	V21/22/22b/23
Scs One	0444 236002	V22b
Sector	0772 454328	V23v
Semaj Qbbs	0303 862415	V22/22b
Sentinel Bb	0628 781429	V21/22/22b/23
Shades	0342 810905	V23
Shadowfax	0252 528146	V21/22/23
Shadowland	081-897 0488	V21/23
Shareware Library	0424 83654	V22/22b
Shasby'S Lair	0772 561066	Hst
Sherwood Forest	0602 397113	V21/22/22b/23
Short Circuit	0273 462967	Hst
Sid (acorn Service)	0223 243642	V23v
Signal Box	081-337 6583	V21/22/22b/23
Sin Bin	0532 661536	V23
Sirius	081-542 3772	V21/22/22b/23
Sirius Ii	0494 778425	V21/22/22b
Skull'S Tower	081-943 1194	V21/22/22b/23
Sky-line	0603 742273	V21/23/23v
Skyline 1	0234 741691	Hst
Softmatic Bbs	0733 322540	V21/22/22b
Software Source	0892 661149	V22/22b
Sounds Of Mercia	0203 682896	V21/22/22b/23
Sparx	0793 480287	V21/22/22b/23
Split Infinity	0342 712248	V23v
Pook Bbs	0268 767365	V21/22/22b/23
Sputnik Spitfire	0501 31754	V21/22/22b
St London Bbs	081-443 2432	V21/23
Stabb	0793 855176	V21/22/23/22b
Staines Bb	0784 465794	V21/22/22b/23
Starbase One	071-733 3992	V21/22/22b/23
Strange Brew!	081-665 5038	V22/22b
Stun User Network	061-429 9803	V21/22/22b/23
Summer Wine	0484 653234	Hst
Sunburn Inc.	021-449 5269	V21/23
Super Ops Bbs	0782 284081	V21/22/22b
Swindon Newc Bb	0793 616683	V21/23
System-c-v	0403 50607	Hst
T.a.b.b.s.	0533 517615	V21/22/23
Tabbs	0225 743797	V21/22/22b/23
Taecomm	0994 6709	V21/23
Taff'S Retreat	0834 4562	V21/22/22b/23
Tardis	0772 27236	V21
Tasque	0355 222664	Hst
Tasug Opus	0904 760129	V21/22/22b/23
Tavern	081-445 6514	V21/22/22b/23
Tbbs-rovoreed	081-542 9767	V21/22/22b/23
Tequila Sunset	0703 867786	V23v
Terminal Net 5	0402 456135	V21/22/22b/23
Terminal-net	081-423 5262	V21/22/22b/23
Tharr Bbs	0234 261804	V22/22b
Third Wave Systems	071-585 3163	V21/23
Three Kings	0354 56267	V21/22/22b
Track 83	0953 851351	V21/22/22b/23
Trans-atlantic Res.	0375 25375	V21/22/22b/23
Transylvania	0274 621668	
Tranz-com Bbs	081-952 6273	V21/23
Trinity I	0392 410210	V21/22/22b/23
Trinity Ii	0367 22764	V21/22/22b/23
Tug Ii	0905 775191	V21/22/22b/23
Twllight Zone	081-788 0884	V21/22/22b/23
Twilight Zone Ii	071-608 1485	Hst
Typesetter's Wkshp	0274 491606	V21/22/23
Uk Healthlink	0942 722984	V21/22/22b/23
Unisys Etoi Bbs	081-453 5739	V21/22/22b/23
Unit One	0285 713688	V21/22/22b
V.i.t.a.s.	021-749 5860	V21/23
Valente'S Bbs	071-978 2078	Hst
Vector System	0329 45824	Hst
Viking East Anglia	0255 503048 Rb	V23v
Village	081-464 2516	V21/22/22b/23
Village Fayre	081-841 5971 Rb	V23
Voyager Bbs	061-725 9580	V21/22/22b/23
White Lightning	0635 37259	V22/22b
Whitehall Pent	071-930 3903	V21/22/22b/23
Wild Imaginings	091-263 4303	V21/22/22b/23
Winchester Remote	0962 69322	V21/22/22b/23
Wolverhampton Ros	0902 745337	V21/22/22b/23
Womble Base	081-979 9606 Rb	V23
Woodgreen Bbs	081-889 5624	V21/23
Yugo Bbs	0734 753648	V21/22/22b/23
Zeus Bbs	0487 710487	V21/22/22b/23

CIRCUIT CITY



You've got your computer, beaten the high score on Burnin' Turtles and tired of reading the manuals. This week, Keith Pomfret looks at you empty connectors and sockets and offers advice on filling them.

Putting disks in the drive isn't a brain intensive task. As that's all software generally requires to get it going, most people can drive a computer even if it's only to erase the turtle's latest enemy or knock down walls of bricks and waves of aliens.

When it comes to more memory, extra drives and a better monitor, the first pangs of doubt creep in and to suggest open heart surgery for the beloved micro almost sends some into cardiac arrest.

Upgrading the hardware doesn't have to be a difficult or nail-biting job. There are three kinds of hardware upgrade.

EASY PEAZY

First there's the plug in piece of kit such as an extra external drive, a new mouse or a different monitor. The upgrade is as simple as a plug into an external socket, providing you follow the instructions (make sure that you never attempt a job that doesn't come with instructions) and that there are no problems of warranty. If you attempt an upgrade like this and your computer or peripherals refuse to work afterwards, go back over the instructions and check that you've followed them to the letter. There may be some small switch or link that needs setting.

Once you are sure that you've done the job to the specification and it still won't work, check for software patches. Some hardware upgrades need a short program to be placed in the start up sequence in order that the computer can recognise them. An example of this might be a PC mouse. A small file driven from the **autoexec. bat** sequence would re-configure the PC to recognise the mouse and translate its movement to the cursor position on the screen.

CAREFUL NOW

The second kind of upgrade is again of the plug in variety, but requires a little more courage and care. This is the internal variety and can differ in difficulty and fiddle between dead easy and Yellow Pages.

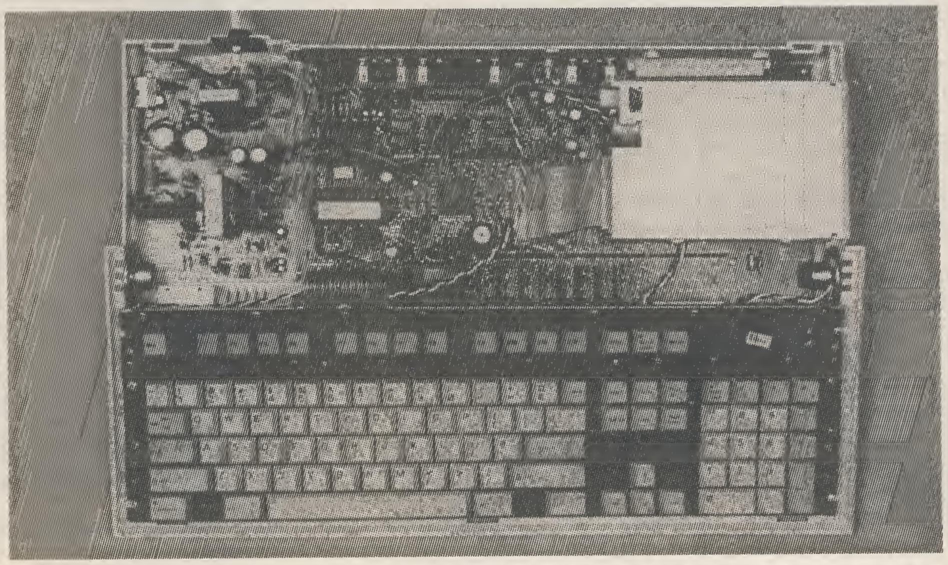
The PC owner is at an advantage in this department as most PCs come with rows of expansion slots. This means that to upgrade a PC, all that you generally need to do is open the lid, dump another card into a slot, perform any switch-flicking prescribed and run the configuration software.

The Amiga, ST and A3000 don't have yards of space inside for upgrades and any internal surgery involves opening them up and delving into their silicon/germanium innards. The Sam Coupé has enough space for a bit of memory and not much more beside.

The Spectrum and Amstrad CPC series are positively full to the brim with their own bits and have no room for any add-ons although their external expansion buses make them readily upgradable.

HARD ONES

The final and most difficult upgrade is the true hardware add-on. This normally involves removal of components and the addition of boards and peripherals either in their place or as well as them. These internal upgrades can involve intensive soldering and de-soldering of ICs. This is delicate work and although many major components are socketed, work on the main board of a machine that involves hardware modifications should be avoided unless you're rich, stupid or an expert.



• The office A3000 with the lid off ready for a good dose of 'peripheral welding', but don't add the bits on the verbotten list or Acorn will take away your warranty.

ARCH WELDING

Manufacturers are notoriously grey in their advice on what you can add to their babies. Disclaimers advising against disembowelment put the user in no doubt whose fault it will be if they do a bit of circuit welding and the machine goes pop.

To try and wash the grey bits whiter than white, we asked Acorn (in the shape of one JA Gorton, CS manager) to tell us what we could do to the office Arches and A3000s without Acorn turning its back on us.

Corporate brows were furrowed but, quick as a flash (about 14 days) Acorn replied with a complete list of those things that they would be miffed if you tried to weld in yourself.

As an example to all the other manufacturers still living in the land of grey and stink and as a ready source of reference to those Arch and A3000 owners wallowing in a bath of solder with nowt to do ...to prove how dynamic they are, they also included a list of things that you can fit and things for the Beeb and Master ranges. Clever fellows.

Things you can't add to an Arch:

AKA51	0.5Mb RAM expansion
AKA52	1Mb RAM for 400/1 series
AKA80	4Mb RAM for Archimedes 540
AKD51	Floppy Disk upgrade for400/1 series
AKD52	20Mb Hard diskwith controller card
AKA22	MEMC1A upgrade
AKA62	RISC/OS upgrade

Things you can't add to an A3000

AKA18	Serial upgrade
AKA12	User Port/MIDI upgrade
AKA53	1Mb upgrade

Things you can't add to a Master/Compact/BBCB

ANB22	Econet upgrade kit for BBCB and B+
ADF16	Floppy drive for Master
ANB27	64k upgrade for B+
ANB31	1772 disk upgrade for BBCB and B+

I'll be ticking off a few of the allowed DIY upgrades and taking my screwdriver to the office A3000. ■

- As this article went to print, the postman delivered the Atomwide 1Mb memory upgrade for the A3000. The enclosed documentation suggests instalation by an authorised Acorn dealer.

We've sent news hound Campbell off to kidnap a dealer and when he gets back we'll be doing a photographic run through of upgrade under duress.

JUST REMEMBER KIDS,

Ripping the guts out of your computer may be more fun than watching Bob Symes fall off his ladder on Thursday at eight, but if your kit is in warranty, you will flush any remaining claim to guarantee down the pan as soon as your screwdriver makes contact.

Even worse, if you don't know what you're doing, or you aren't brilliant at following instructions, you could end up owning a dead computer

Be realistic and don't attempt anything beyond your capabilities unless you've enough money to throw your dead computer in the boot of the Lamborghini and whizz it down to the tip.

THE PD COLUMN

There's a wealth of free software out there which is yours for the price of a disk. Our PD man, Adam Waring, takes a look at what wonderful freebies are on offer this week...

U-Edit • Amiga • Electrix PD • AU001

U-Edit is just the thing for tapping out letters to your mum. It's a word processor and features all the usual editing facilities that you'd expect. It comes originally from the States, and you can obtain a whole host of add-ons by writing to the program's creator and paying the shareware fee.

At first you're presented with a rather nasty purple screen to work on. Luckily it's easily changed via a menu command. The pull down menus give access to a whole host of features, enabling to set it up more or less how you like.

It doesn't match up to a fully fledged word processor - it doesn't have any spell checking facilities for one thing. Then again, it doesn't cost a hundred quid either.

Astrology • ST (Double Sided) • Elmsoft PDL • Misc 46

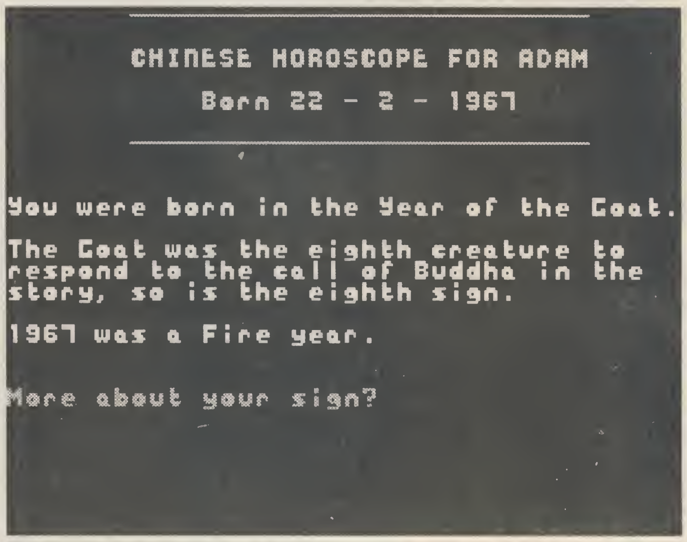
Do you turn avidly to the horoscope pages of the daily paper, or do you think that the stars are a load of old tosh? Whatever your views on astrology, this disk from Elmsoft will prove to be an amusing distraction at the very least.

There are a fair number of programs on the disk, all in some way linked to the telling of fortunes. You can have your future predicted with Aztec and Chinese charts. You can even use your unconscious mind to pick dominos, and reveal your future.

Personally, I take horoscopes with a large bucket full of sodium chloride. The prospect of a computer telling me what was in store for me makes it seem even more unlikely. Anyhow, I booted up, typed in my details and let the computer look into my future...

Apparently, I'll be selected for the England squad in time for the next World Cup, go on to become the President of Bolivia, and get paid on time for this week's PD column. OK, the first two have possibilities, but the third? Come on!

Dominos was quite good fun, but I suspect rather more random than the other programs. In this program you simply click on three dominos, and it prints out a pre-determined response to the



```
        CHINESE HOROSCOPE FOR ADAM
            Born 22 - 2 - 1967

You were born in the Year of the Goat.

The Goat was the eighth creature to
respond to the call of Buddha in the
story, so is the eighth sign.

1967 was a Fire year.

More about your sign?
```

• *So that explains my goat fetish...*

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706:	3 GAMES BY PH SOFTWARE. The TURN, TRICKY, MARBLE SLIDE.	£2.00
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812:	STAR TREK U.S. Version. GOOD! (1 MEG) (2 Drives).	£4.00
813:	A-GENE Geneaology (FAMILY TREE DATA). (1 MEG Min).	£2.00
814:	AEROTOON ANIMATION. With great sound efx (1 MEG).	£1.50
818:	EXCELLENT Legend Of ROBIN HOOD Animated Demo. (1 MEG).	£1.50
832:	TEXTPLUS 2E0 A fantastic Wordpro/Spellchecker package.	£2.50
834:	BOWL V2.0 TEN PIN BOWLING SCORES ARCHIVER. (2 DRIVES).	£2.00
836:	KHERN ANIM GOOD, BUT NEEDS 2 MEG TO RUN IT. (3 DISKS).	£4.00
838:	RAYTRACE SLIDESHOW 9 BY T. RICHTER EXCELLENT! (1 MEG)	£1.50
840:	PROFESSIONAL SOUNDTRACKER V1.0C.	£1.50
841:	FANTASTIC LOST IN SPACE ANIM ON 3 DISKS (2 MEG).	£4.00
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102: Lorenzos music utility disk. Rippers and Players galore.
111: Rave Demo (1 meg) by H.C.C
126: Arnold Schwarzennegar. Total Remix. (2 Disks). Very funny.
136: Digital Concert 6 by Flash Productions. The latest 8 minute mix.
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140: Newtons Music Disk. 6 Good songs with some crazy equalisers.
141: Dmob Music 3: Their best so far. Quite excellent.
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DEMOS, INTROS & MEGADEMOS
206: 5 major demos inc: The Revenge of Babbnassen, Cebit90 by Red Sector
209: Scoopex: Mental Hangover
223: DeathStar Mega Demo (2 Disks)
226: Freddy Krugar Rap.
228: Robocop demo.
229: RAF Megademo: (2 disks): Some great animation on this one
230: Red Sector Megademo: (2 disks): Simply one of the best around.
232: Safe Sex Demo: Absolutely hillarious and it isn't even X-Rated.
239: Goldfire Megademo: New first demo from Goldfire. Excellent.
247: Crionics Neverwhere. (1 MEG). A disk that deserves to be called MEGA
248: Crionics Megademo. 3 Parts all great. The Madonna Animation especially.
249: Cave Compact. (1 MEG). A compilation of really good demos.
250: Brainstorm Megademo. (2 DISKS).
251: Giants Megademo. (2 disks).
253: Rebels Megademo. Hot stuff from beginning to end.

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GRAPHICS PICCYS AND ANIMATION
308: Nightbreed Slideshow by H.C.C.: These are the best pics I've seen yet.
315: Miller Lite Advert.
319: Neighbours Slideshow. Full of hillarious captions.
407: Walker 1 Animation (1 Meg). Been around for a while. A Classic.
408: Walker 2 Animation (1 Meg). Yep! You got it another Classic.
412: The Education of Cool Cougar (1 Meg): Brilliant
420: Fractal Flight. (1 Meg): Demo of Fractal Flight by Hypercube. Wow!!
425: Raiders of the Lost Arc. (1 Meg). Best sequence from the film.
430: Dragons Lair 2. Time Warp Demo: (512K). Great demo of the new game.

GENERAL
500: Jazzbench: Jazz up your workbench
501: Fonts Disk: Loads of fonts
502: Wordprocessor
503: Spreadsheet.
504: Database.
506: Dope Intro writer.
507: Virus Killer disk.
508: Tetra copier. New and very very good.
511: North C: Complete programming language by Steve Hawtin
512: Complete C Manual: (2 Disks): 200 Page manual with 70 example progs.
513: Clip Art Collection. (6 Disks). All the Clip Art you'll ever need.

GAMES
702: Star Trek 3: (2 Disks): absolutely fantastic.....
707: Paranoid: Arkanoid like game with its own screen editor.
709: Pseudo Cop. Woooooooooow!!. Absolutely brill.
710: Flaschbier. A very good Boulderdash look alike.

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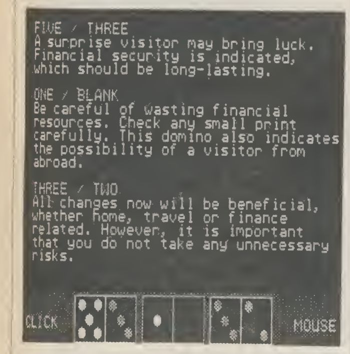
selected tiles. It's a bit similar to tarot cards really. Of course, if you do it too many times then the predictions conflict so much, well, you just don't know what to believe.

The programs were devised by a programmer/astrologer team, so whatever you believe, the stats thrown at you should be in line with what a real fortune teller would tell you.



```
FIVE / THREE
A surprise visitor may bring luck.
Financial security is indicated,
which should be long-lasting.

ONE / BLANK
Be careful of wasting financial
resources. Check any small print
carefully. This domino also indicates
the possibility of a visitor from
abroad.

THREE / TWO
All changes now will be beneficial,
whether home, travel or finance
related. However, it is important
that you do not take any unnecessary
risks.

CLICK                                MOUSE
```

• Pick three dominoes, any dominos...

The disk is exclusive to Elmsoft - you won't find it in any other library so don't bother trying. In addition it's licenceware rather than PD. This makes no real difference as it's around the same price as PD software, but the developers get a small amount of remuneration for their handiwork, encouraging them to keep programming..

Total Recall • Amiga • Diamond PD

Arnie and pals feature in the *Total Recall Demo*, from the stupendously violent and hugely entertaining film of the same name. Loads of superbly digitised mono stills are displayed, whilst a sound-track keeps accompaniment. (I don't think it's from the film, though).

The demo was written by an up and coming demo group called Timecode. It's Timecode's first production, but it's hoping to produce a number of similar demos in the same vein.

There are quite a lot of pictures on the disk, some of them quite good and it should have a fair amount to offer for all Arnie fans.

Crionics Megademo • Amiga • Electrix PD I AD002

Crionics Megademo is really a compilation of three demos in one. *Noia Demo* and *Pigs in Space* show off some really smooth vectored 3D routines, fascinating to watch. What really impressed me though was the *Madonna Demo*.

A huge cartoon animation of Madonna walks along the street. The background and foreground scroll smoothly in around four planes of parallax. Admittedly the animation is made up from a small number of frames repeated in a loop, but who cares? It looks brilliant and is well worth a look.

It's supposedly inspired by the intro to the *Who's That Girl?* video. You know, the bit where the blond bimbo walks along the road, but the music comes from a different source.

PD NEWS

A new Amiga library opens shortly. It calls itself Electrix PD, and will be taking orders from November 26. As well as supplying PD software for Commodore's machine, its catalogue offers news, reviews, interviews and so on. It's running a competition to find the best PD programs of 1990. Simply supply your vote with an order, and you could win 10 PD disks from the library.

As a special opening offer, four free disks will be sent, along with every ten bought. Prices are £1.40 per disk

Electrix is on the look out for more software to add to its library. Anyone who contributes two disks to the library will receive a free blank one, and they won't only be stocking the 'big' demos.

Electrix Amiga PD resides at 68 Donald Drive, Chadwell Heath, Romford, Essex RM6 5DU.

There are plenty of libraries offering PD for ST and Amiga machines, but distributors for the PC software seems a bit thinner on the ground. It's surprising since public domain has been around on the PC for donkeys' years.

CMB intends to fill that gap, and is well established, boasting around 500 disks, updated with about 50 disks a month, including stuff from a top US distributor.

Its catalogue is available on both 3.5 and 5.25 inch formats, and offers full descriptions of the software, rather than just reams of listings. It's yours for just 50p plus an sae.

Prices for disks proper are £1.50 for 5.25, and £2 for 3.5 inch, including P&P. CMB shareware lives at 7 Rookhope Grove, Bishop Aukland, County Durham DL14 0SW. ■

WHERE TO GO

Electrix PD, 68 Donald Drive, Chadwell Heath, Romford, Essex RM6 5DU. Electrifying PD software for your Amiga. All disks cost £1.40, but watch out for special offers. Make cheques payable to CMS.

Diamond PD, 21 Bettiscombe Close, Canford Park, Poole, Dorset BH17 9DH. They distribute the *Total Recall Demo* on the Amiga, and they charge £1.80 for doing it.

Elmsoft PDS, PO Box 17, Loughton, Essex IG10 2EE. PD for your ST. Disks from 90p. Send a blank disk or £1.10 to the address above.

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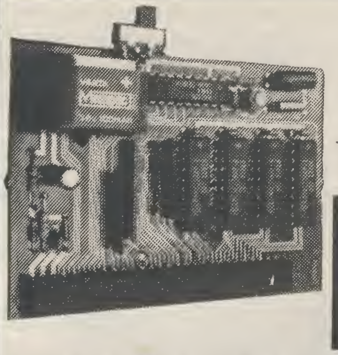

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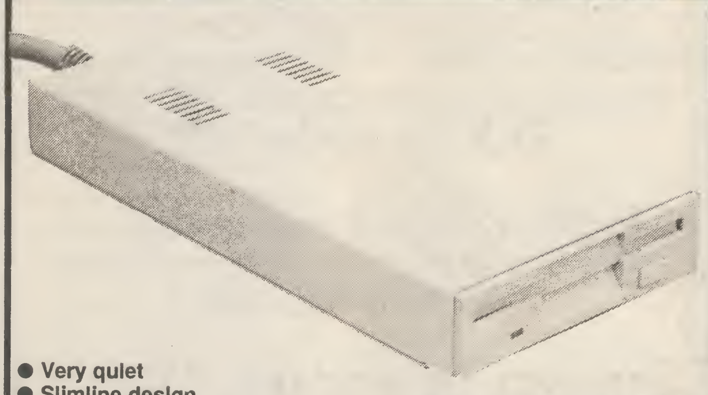

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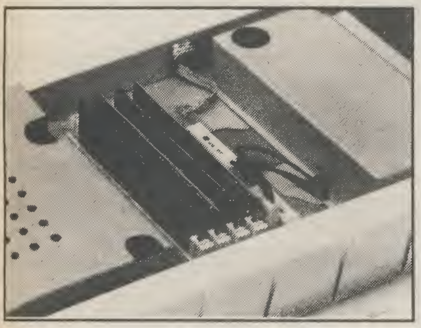

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N.B. Due to the large variance in design of the Atari ST, there is a small minority of boards in existence which may require a small amount of soldering.

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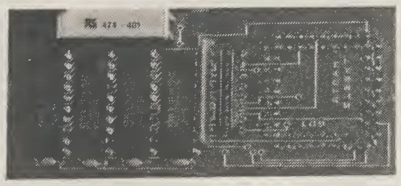

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Does your PC keep packing up? Is your Amiga less than friendly? Would your ST try the patience of a saint? Write to Keith Pomfret's Tech Tips and we'll soon see you right. Send your sorry stories to Tech Tips, Beauford Place, 30 Monmouth Street, Bath BA1 2BW.

■ HELP! Colour Arch

I've an Acorn (or was that BBC, I could never tell) A3000. It's OK at printing out word processor files and labels and things, but I can't find any printer drivers that will allow me to get a colour output from my Star LC10C. I think that it may be the same driver as one of the Epson colour printers, but I'm not too sure. I have several files that look crappy in grey, black and white and I'm sure that they could benefit from some sort of technicolour output. Also, is it possible to get a home re-inking kit for multi-colour ribbons like the one in my Star.

Melanie Boddington, Manchester.

We can offer around 50 per cent solace to you with the good news that there are several colour printer drivers for the Archimedes. According to the chaps at Ace Computing, your LC-10C is Epson JX compatible, as are the Star XB-24, and Citizen Swift 24 colour.

The requisite driver will remove £15 of your disposable income and put it in the coffers of Ace Computing and your Arch will emanate rainbows of epic (at least A4) proportions.

To make life even cosier for Archimedes and A3000 users, Ace Computing also offers printer drivers for the HP Paint jet, Canon PJ 1080-A, Integrex and ColourCel printers. Ring Ace on 0223 322559.

■ HELP! Travel time

Does anyone do a program with all of the train and coach times on? If they don't, why not? A full BR/National Travel timetable attached to an Autoroute style calculating prog could offer the traveller an accurate route (cheapest fastest etc.)

Arnold Dymmock, Hillingdon, Uxbridge.

As far as we know there's no program available at the moment that does this, although the idea of holding timetables on a computer isn't so far fetched. BR runs a mainframe that lets its stations access timetable and reservation information and I'm sure I've seen a National Express inspector with a Psion organiser.

Getting the timetables and the route optimisation together in the same program could involve some fancy number crunching and one peek at BR's fare structure and Railcard criteria would send even an ARM3 equipped Unix Archimedes running for cover.

If anyone thinks or knows different, hop on the delayed 14:26 from Temple Meads and we'll meet you in Bath to buy you a beer (if the bus is on time.)

■ HELP! On the Map

Where can I get a schematic diagram of the memory map for my Archimedes A3000? Unlike the CPC I owned before there don't seem to be a selection of technical references available. In order to develop my own peripherals (as I did for the CPC) I need a complete I/O map, peripheral address map and a full set of the internal registers in tabulated form. Can you supply these or tell me who can. I don't mind paying

Julian Weeks, Farnborough.

Whoops ... this letter arrived at the end of August but it wasn't until I cleared out the editorial drawer that I found it hiding at the back between the heat sink pliers and the Haynes manual for my ailing Robin.

Still, every cloud has a silver lining. When your letter came in I couldn't have answered it anyway. Since then, the chaps at Acorn have sent us the requisite reference books.

The A3000 technical reference is the tome that you require. The schematics that you are looking for are on pages seven and eight. The technical reference manual is a loose leaf A4 folder and contains machine diagrams as well as all the documentation that you could wish for.

At £29.95 it's a little heavy on the wallet, but it's worth every penny. *The A3000 Technical Reference* can be obtained through your local Acorn dealer or direct from Acorn on 0223 245200

■ Help! Leads and Bradford

I have a Microvitec Cub monitor No: 1451 DQ3, TTL input which I use for my QL computer. I am possibly getting an Amiga 500 and would like to use the Cub monitor.

Please could you tell me if it is just a case of changing the leads and what would I need?

R Piesey, Harwell.

You are quite right when you guess that it's a simple matter of changing the leads. The chaps at Microvitec in Bradford should be able to offer you the necessary pin-outs for your QL mnitor and by comparing them with the ones in the Amiga manual (23-pin video socket) you should be able to make or get your local computer store to make a lead that will do the job.

■ INDIGNATION! Good ramble

This is my third letter and you better not ignore it. Not everyone can afford heavy expensive manuals for two or three silly jobs. I wrote to you for you to print some tables from Amiga manuals and to ask you to run some of the paragraphs from a book called Amiga Disk Drives Inside and Out.

You have ignored my requests when it would be easy for you. All you have to do is scan or photocopy the pages in question and lay them out in Tech Tips. Not to difficult, huh?

Certainly easier than going off and researching some dim-wits 8-bit machine from the seventies or even worse a printer. Can't these turkeys buy suitable printers and peripherals.

Do yourself a favour – opt for an easier life and get the scanner out.

Mo Patel, Lichfield ,Staffs.

I haven't ignored your letter. The other two times I binned your letters for their abusive language and questionable subject matter. This time I've removed the words that make reference to ladies' nether regions and the act of propogation. (*So get polite pal – Ed*)

What you are asking me to do is criminal. On occasions we may type in a small table or a brief extract from a manual (with the permission of the publisher) but if we were to pander to every request for information from manuals, we would reprint enough to deprive the publishers of sales.

I will gladly find the book that you want and point you to the right place in it but depriving the author of royalties isn't our forté.

■ HELP! ST Clip Art

I have cast around the various PD and shareware libraries for the Atari ST to try and find some Clip art for my ST. Not much of a problem, you may think. As I only have a single-sided drive and it works. I don't want to go to the expense of buying another disk drive. There seems to be a lot of ST clip art available, but only on double dided disks. If I lived somewhere where there were a lot of STs I could buy these and get a friend to transfer the files.

Unfortunately, here in Shetland there aren't a lot of STs. If you could recommend a way of buying the Clip art on single-sided disks or getting it transferred I would be grateful.

Campbell Byers, Lerwick, Shetland (Brrrr...)

Coincidence is a funny old thing, isn't it? I was reading your letter, scratching my head wondering who to recommend. A few phone calls drew a large white blank and I was running out of ideas. If I'd looked at what was in front of me in the first place, I could have saved myself time and effort,

The back page of the current (autumn/winter) *Goodman PD catalogue* offers masses of Clip Art in a set of either eight double sided or sixteen single sided disks.

Cost of Clip Art Set no.1 is £19.95 on double sided and £29.95 on single sided disk.

If you want to pay using plastic ring 0782 335650. Otherwise write to Goodman PD, 16 Conrad Close, Meir Hay Estate.

Digging deep into the *Goodman's Catalogue* I found a couple of pages of Clip Art disks. Everything from Animals to Lorries to characters from VIZ and all stations in between.

■ HELP! Membrane hurts

My Amiga just passed its first birthday, when – shock horror – the keyboard stopped working. Nothing worked. No keys, not even a caps lock light to brighten up my day.

I'm a PC man you see and I've spent many years playing around with them. So I took the cover off my A500 and found the fault: a duff keyboard membrane.

Great, I thought. So I picked up the phone and rang around a few places. Everywhere I was told I would need a complete keyboard and that would cost over £90.

I am writing to you in the hope that you know where to get a membrane or failing that a cheap(ish) keyboard.

Anon.

There's no such thing as an Amiga membrane listed as a spare part and even Honest Joe's Amiga breaker wasn't offering anything vaguely membranish. When you consider it, the keyboard of a computer is the bit that takes all the analogue stress (thumping) and over a period of time if it fails it will need to be replaced by something of sufficient quality and strength.

While you've been a bit unlucky (I've never heard of or had an Amiga keyboard go pop on me), £80 or so isn't a huge amount to pay for a piece of kit that keeps you in touch with your dedicated chip set

■ HELP! Identity Crisis

I have two machines on which I would like some information.

One is a Data-Point computer 1560 and the other is a Ricoh Synchrofax RP.

Where am I likely to obtain operating instructions for them and any spares?
W Bradbeer, Bognor Regis.

We haven't any info on them but if there's anyone out there who has .....

■ HELP! Which computer

As a first time buyer of a home computer. I would like your expert advice on which one to buy bearing in mind the difference in prices and special offers, and also which computer is best suited to games, writing programs etc.

I have read various articles, but am still confused as to which is the one to buy between the Atari 520STFM, Atari 520STE and the Commodore Amiga 500.
DG Herbert, Whitehaven.

All three fall in the same category. 68000 processor, good graphics second generation home computers. The STFM and STE are both Atari STs. The STFM is the more conventional of the two. The STE is an enhanced version with many whizzy features. The STE is technically better, but may experience some software incompatibility with earlier programs.

The Amiga comes with a slightly slower processor than its Atari rival, but a dedicated chip set makes it a more elegant machine than the STFM and the STE. If all this technical wibble means nothing to you and you are just looking for a good computer to play games and use serious software, any of the three will suffice. Around the *Express* office, a pool of machines owned by staff found a total of three Amigas, 2 STs, an Archimedes and a couple of PCs If it were my decision I'd go for the Amiga, but then again, I already own one so I'm slightly biased.

■ HELP! Middle missing

I read with interest George Garven's problem with his Amiga hard drive set up. I too have had a very similar experience. I have an Amiga 500 with an A590 hard drive and A501 RAM expansion.

Very soon after I received my hard drive the Setlock command couldn't find the clock and a few files had a creation date of the future, namely 1993. Cycling power and virus hunting solved nothing. Eventually I decided to remove the clock. After de-soldering the metal RF casing the battery tested fine on my voltmeter. I reseated as much as I could and reinstalled it along with many files in C: but no luck.

But later, somehow I got it working.

Whether this is a hardware bug or what, I can't explain why it happened or how it was cured. I'm running ARP 1.3 now and have experienced no problems since.

A long, long time ago we had a Video Genie Computer. In an electronics magazine there was an extremely simple kit and program that you could cheaply build to create a crude morse decoder. The comnputer would attempt to display the correct letters on the VDU. It was great fun and must be fairly simple, but I haven't a clue how to do it. I have tried using my sound sampler with Amos but can't seem to get any sense out of it. Any advice?
Mike Laskey, Ramsgate.

Your story is marred by the line which says "Somehow I got it working." It's difficult for fellow Tech Tippers to follow your advice with vague comments like that in the middle. How would you like it if I answered your question about morse decoding with :"I can do it on my Amiga using a program I've got."

Well I can and that's your answer until you put the meat in the sandwich and help out your fellow man with the full story.

■ HELP! Manual needed

I have a Novex colour monitor model NC1414-CL UK and it is faulty.

I have taken it to three computer repair shops, but they say they can't repair it without a circuit diagram.

I have sent a letter to the distributor, but it came back unopened marked no longer at this address.

There is no power going through the monitor. It's in immaculate condition and I am trying you as my last effort before I decide to buy another monitor.

The information on the back of the monitor is as follows:

Novex Electronics.
Model No NC-1414-CL UK.
Power 240V 50 Hz 75W.
Serial No 8310402 190.

Also relevant might be the fact that I have a BBC B computer.
AJ Ennis, Merseyside.

So if anyone out there has the monitor, the knowledge or the book, please forward them to *Express* and we'll pass on the details to he of no display.

■ HELP! I can't read

As you stated in issue 102 "write in for further information," I would appreciate information on the Mapsat weather satellite receiving system in order to produce a complete weather station. This may require further modules as you mentioned so therefore information on these would also be appreciated.
David Hedley, Fife.

Grrr. In the Article we made it quite plain that all of this kit came from Maplin and we gave the requisite phone numbers.

For the record and for the final time for a bit Maplin is on 0702 554161 and the £2.45 catalogue full of the info that you require is on sale in WH Smith and other good national newsagents,

■ HELP! TV fixer

If I bought a second-hand TV would it be possible to bypass the unused TV circuits to make a monitor? If so would any YV engineer be able to do it? Would it be costly and are you going to feature it in Circuit City?
Sean Lavelle, Manchester.

To answer your questions in the order you put them:

1) Yes
2) That depends on how good he is, it's not a simple job.
3) It would cost a lot of money in man hours but not in parts.
4) As the resolution of a TV is on the shadowy side of nob, we've no intention of doing it as a project in Circuit City. However, if anyone's already done it, send the details and we"ll feature it as a reader's project (Rather like readers wives only replacing the sexism with solder.)

■ TIP! Yuppies watch out for those cells

After three years sterling service, my IBM AT started crashing for no apparent reason. The local computer centre took it in several times and couldn't find anything wrong with it, but suggested that there may be something causing spikes on the ring main that caused the crash. I gradually unplugged everything until the only thing left connected and on was the AT.

Still the crashes happened. My work had to be saved on a ten minute basis and it was taking me three times as long as before to prepare reports and letters.

I gave up trying to find the problem and started to work around it. Out went the old Word Processor (good old Wordstar). In came Protext with its autosave routines. More crashes, but at least I regained a little of my productivity.

Yesterday, the office handyman's son was 'helping' his dad repair a window in the office. "Isn't it a bit dangerous leaving a radio transmitter that close to a computer," he said, pointing at my cellular telephone. I moved it and the computer doesn't crash any more. The 'crashes' were caused by the cell phone's intermittent searches for a cell. Listening to the phone, I can hear the click of a relay or suchlike. When this happens, the computer bombs if the cell phone is closer than about six feet.

The phone isn't plugged in to the wall socket, so I hadn'tnconsidered that it could be interfering with the computer.

After talking to the company that I leased the phone from, I am informed that the cellphone is in fact a very powerful radio transmitter and while it's not harmful to human flesh, it can make computers quite , quite ill.
Raymond Jones, Peterborough, Cambs

That's not the first time that I've heard of electro-magnetic radiation making computers bomb, but it's the first time I've heard it attributed to cellular phones.

To put your theory to the test, I put my own cellphone (PanasonicEF) next to the Macintosh and although the Mac didn't die, it certainly noticed the clicks and the display flickered in fine order. It looks like the rule for the day must be: keep your cell phones, CBs and other assorted transceivers away from working computers.

● I spoke to Norman, the local radio amateur and he added: "It's the radiation from the antenna that is the source of interference so if you can set up a remote antenna away from the transceiver, you won't have this problem."

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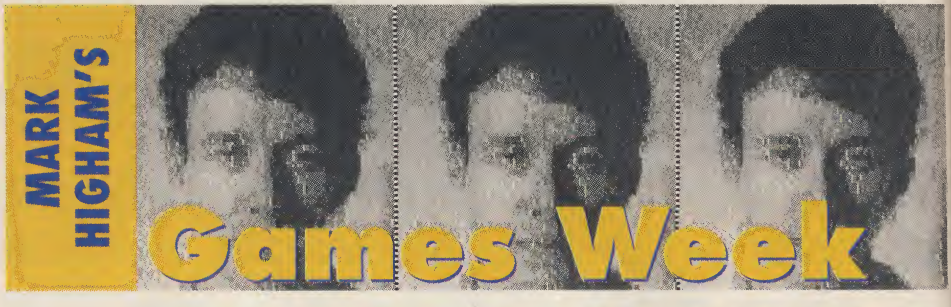
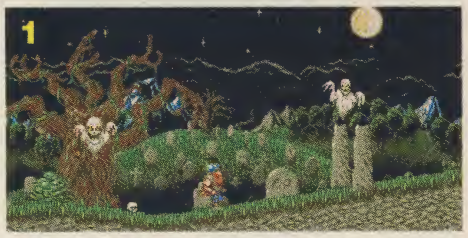




1. Race through as fast as possible.

FIRE AND BRIMSTONE MICROPROSE

Several of you have written in asking for tips on how to get to grips with *Fire and Brimstone.* In order to provide you with the best advice, we've approached Microprose's own play-testers who came up with these handy gems. Besides a complete solution to level two we have general advice on how to get to grips with the other levels.

GENERAL ADVICE

Stick with the Fireball except when a different weapon is needed for a specific task. This is the most effective weapon.

When you reach the end of a screen be sure to kill any moving enemies before leaving the screen. If you leave them wandering around they will follow you onto the next screen and cause heaps of grief.

Be careful when collecting new potions if both your potion boxes are full. One of them will be detonated to make room for the new potion and you may end up sacrificing a good potion for a useless one.

Try and avoid the Red Knight by leaping over his head. If you're low on energy you can gain extra by taking him on and waggling your joystick furiously left and right.

LEVEL 1 – ALFHEIM

Don't shoot trolls. They walk harmlessly past you unless they are shot at and you can't kill them.

Deal with flying birds by waiting for them to swoop into your line of fire and then hitting them with two fireballs.

To handle pot witches make your way along to the witch until she is about an inch away. Shoot her from here until she changes into a frog. At this point she leaves a potion behind her cauldron. Move close enough to collect it and then quickly jump over the frog before it starts jumping. If you're hit by one of her spells the safest tactic is to find a safe spot and protect yourself until the spell wears off.

LEVEL 2 – VANAHEIM

Walk away from ghosts until they drop down to your level then turn and shoot twice.

Deal with the red birds in the same way as the blue ones in level one. Deal also with level two ogres in the same way that you dealt with level one goblins.

Flying witches must be shot from a distance or their explosion hurts you. If you can't shoot them from half a screen away then just let them fly overhead, avoiding their bombs. Flying witches usually drop a potion when killed.

Wizards can be sent away with a single shot but you must shoot as soon as they appear or else they fire back.

Spikers should be approached carefully. They only hurt when they stab, so wait for them to stab and then run past quickly. ■

THE 16-BIT TOP TEN

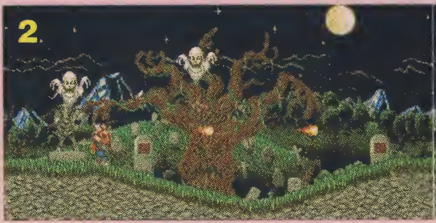
Well, what a surprise, 'Electronic Arts' *Indianapolis 500* has gone straight into the number two slot, and I'll bet that by next week it's knocked *F-19* off of the top slot. The bad news is that *Indianapolis 500* was programmed in the States and there are no plans to release an ST version.

For the week ending 3rd November.

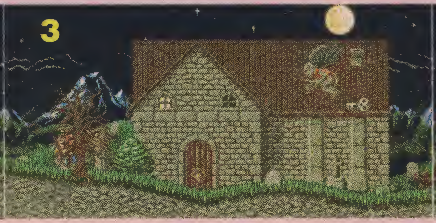
1	F-19 Stealth Fighter	MICROPROSE	ST/AG/PC
2	*Indy 500*	ELECTRONIC ARTS	AG/PC
3	*Kick Off 2*	ANCO	ST/AG
4	*Team Yankee*	EMPIRE	ST/AG
5	*Turrican*	RAINBOW ARTS	ST/AG
6	*Cadaver*	MIRRORSOFT	ST/AG
7	*Boulder Dash Const Kit*	WICKED	ST/AG
8	*Supremacy*	VIRGIN	ST/AG
9	*The Spy WhoLoved Me*	DOMARK	ST/AG/PC
10	*Wheels Of Fire*	DOMARK	ST/AG

ST-ATARI ST Ag-COMMODORE AMIGA PC-IBM PC OR COMPATIBLE
Chart complied by GALLUP.© European Leisure Software Publishers Association

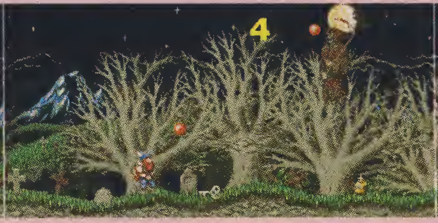
PLAYING TIPS: Hot ho



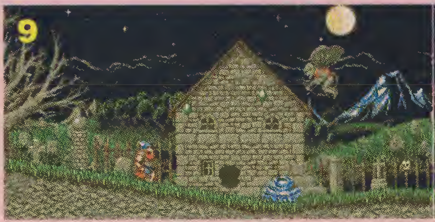
2. You can often walk straight through this screen without harm. When the skull jumps it ignores you so long as you don't stop. If the birds interfere, shoot them twice and keep an eye on the skull. It's possible, albeit difficult, to shoot the skull and make it bounce of the screen.



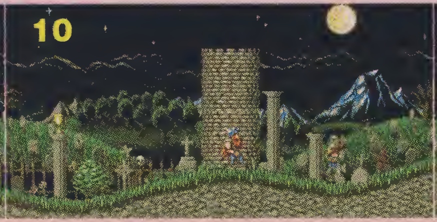
3. Blast cupid four times to get a high-jump potion. If you haven't already got high-jump ability, detonate it going onto the next screen.



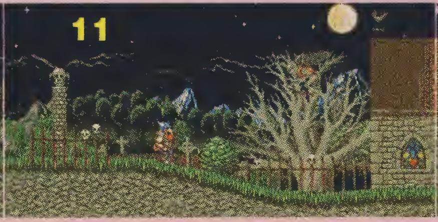
4. Immediately you enter this screen jump up and fire when in the air. You ought to be to get two shots into the Reaper before he fires back. Once he starts attecking, concent on avoiding the drops of blood. You only need to watch the Reaper occasionally to avo contact with him. Keep firing at the same time as jumping over or ducking under the bl drops. When you hit the Reaper nine times he dies and drops a potion. Take the Orb for bonus points.



9. The Red blinker looks through the hole in the building. He's harmless and helps you rather than hurting you. Stand in front of his hole and pull the joystick down to restore your character to full health. Walk past the Pulse mound but try to avoid its bombs.



10. Access to the hidden room is on the top of the brick tower. Jump on the two pedestals to get up there, but before entering the hidden room stand on the higher pedestal, face right, jump and fire until the book drops down. Make sure you collect the book before entering the secret room. After collecting the key in the secret room the exit is found on the fifth tower from the left – the tallest on the right-hand side.



11. This is the easiest screen in the game. Shoot Cupid four times for a High-jump potion. If you need another, walk back off the screen and come back on again.

12. Jaws harmless Jump thr him and h won't do any harm.

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FLIP-IT AND MAGNOSE

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A spaceship lands in some deserted part of the world. Two elf-like creatures step forth and your quest begins. The inhabitants of Mars have run out of water and with their planet surface turning to dust they've decided to come and steal precious water from Earth.

Despite having the sort of scenario usually associated with shoot-'em-ups, *Flip-it and Magnose* is in fact a cutesy game. Before you decide you've already seen more than enough cutesy games over the last few months, *Flip-it and Magnose* boasts some unusual twists and turns. For a start the game features simultaneous two-player action and secondly it's bursting with puzzles to solve.

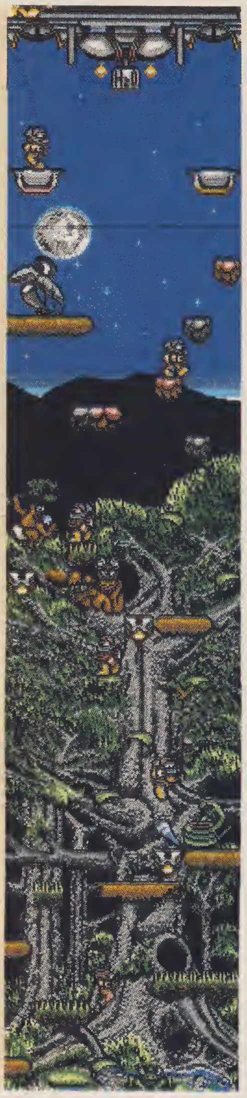
There are six different levels and each is played as a scrolling vertical strip of platforms. The screen is split vertically in half and one player plays on one side of the display while the other plays on the opposite side. In a one player game the second character is played by the computer. Your task is to leap up and down the platforms finding a way of prising valuable water out of the animals which reside on the different platforms. To obtain water you need to give an item to one of the animals. He will give you something else in return and you take this to another animal who then spits out a drop of water. Provided you've collected a water container earlier on in the level, you can hold the water, otherwise it's wasted.

Each time you collect a drop of water you need to carry it back to your spaceship and drop it. A varying number of water droplets must be collected and carried individually to the spaceship before a level is complete.

Since both players play the same level, you regularly meet your opponent as you trot up and down the level. Since this is a contest you don't help each other but instead do everything you can to hinder each other's progress. In between levels you have the opportunity to buy yourself special traps which you can set for your opponent. Some freeze him for a few seconds giving you the chance to steal an object you want, others enable you to rob him of any water he might be carrying.

Annoyingly, collecting extra objects isn't as easy as it ought to be. You have four stores available but you can only pick up or drop items from one store at a time. To change the currently active store you hold down on the fire button for three seconds, then move the joystick left or right to select the store. During this time your character is incapable of moving and you can be booted all round the screen by your opponent if you aren't careful.

Colourful sprites and detailed backdrops complement an addictive challenge. A few more puzzles to solve would have extended the excitement of the game further. Unfortunately, *Flip-it and Magnose* works best as a two-player game, so if you don't have any friends you'd be better off sticking with *Rainbow Islands*.



Level one is set inside a jungle. To obtain those precious drops of water you need to give items to the jungle creatures who then reward you with other goodies.

1. Your first step is to collect a water container. Without it you cannot hold the water

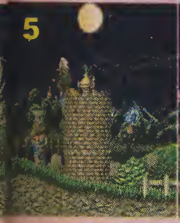
2. Pick up the nutcrackers and take them to the ape

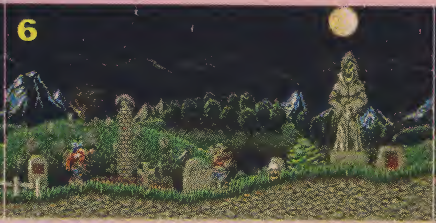
3. The ape spits a bug in front of you. Collect the bug and take it to the frog

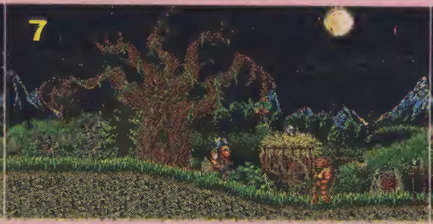
4. Before you give the bug to the frog, put down the water container. Now hand over the bug and the frog spits a drop of water into the container.

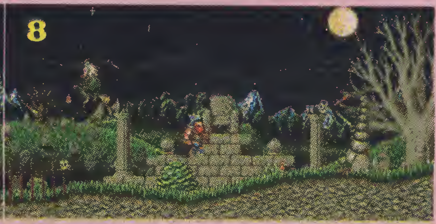
5. Carry the container all the way back to your spaceship where you're efforts are acknowledged. Only another five more drops to collect and you can be off to the next level.

Hot hi on Fire and Brimstone









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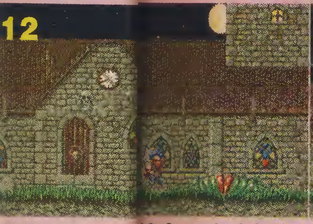
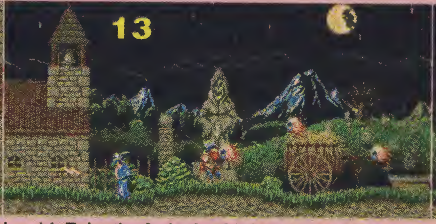
5. Hack everything that comes for you.

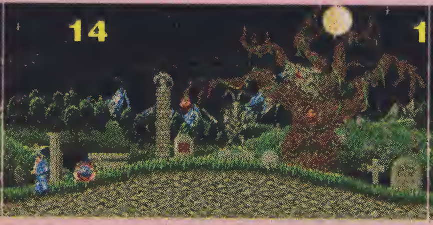
6. Similar to screen two. Watch out for the skull at all times.

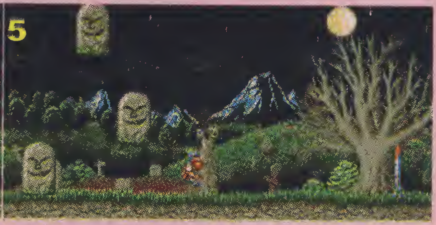
7. Shoot everything you see and remember to collect the fruit.

8. Pick up the goblet. Don't try to walk by the Spiker because it isn't possible. This Spiker is demented and stabs much faster than any other. Jump onto the chair. There's a spring in it which propels you into the air, push right and you can dodge the Spiker.









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13. Stay at the left-hand side of the screen shooting fireballs until all the eyeballs are dead.

14. Take the fruit. Avoid the Stump creature by timing it correctly.

15. When the stones are on the ground it's safe to touch them or even walk behind them. All you must do is avoid them when they drop down. Keep well away from the sword on the right-hand side of the screen and never jump in the air. When you first enter this screen keep walking (under the stones as they jump) until you are far enough into the screen for the stones to have jumped clear over you. Stop, turn, shoot. Walk up close to the stones and wait for them to jump again, then walk under them again, turn and shoot. You should be able to keep up a rythmn like this keeps you safe. There's no time limit and eventually they die.

THE CONSOLE ZONE

Your weekly guide to console gaming with Richard Frederick.

SEGA MEGADRIVE

• *Amazing graphics from Starcruiser on the Sega.*

Star Cruiser is the latest release from the prolific Megadrive developer, NCS Corp. in Japan. A four-megabit 3D sci-fi game, *Star Cruiser* costs 7300yen (£29).

PLAYING TIP

Martyn Rice from Basingstoke has sent in this *Revenge Of Shinobil* cheat: on the options screen if you put the shuriken to zero and wait about 30 seconds they will merge together and give you unlimited shurikens.

SEGA MASTER SYSTEM PLAYING TIP

Listen to *Poseidon Wars* 3-D sounds by waiting for the title screen then pressing: [Up], [Left], [Left], [Down], [Down], [Down], [Right], [Right], [Right], [Right]

NINTENDO GAMEBOY

Crime does not pay, but you'll have to pay 3500 yen (£14) if you want to catch criminals on your Gameboy. *Scotland Yard* is a multi-stage detective game from Toei Animation Co and Otto Maier Verlag Ravensburg AG. Just make sure nobody steals it from you.

• *A bit of the action from Scotland Yard.*

PLAYING TIP

Jefferson Lee-Paul Boss, Steven Cheung, Stephen Jacob, Jason Baziliauskas, James Nicols and Aza (phew!) have sent in a list of words which can be used in connection with that brilliant puzzle game *Tetris*...

SLAMDOWN: Pressing [Down] when the shape is at the top of the screen so that it fits perfectly into the pile - achieving maximum drop points on Game

- B.FLUNKER: Placing a shape wrongly so that it disturbs the pattern of the pile. You die as a direct result. Associated with higher levels (from 7 to Heart 9).

- PICASSO: As above, but you do not die as a direct result. Associated with lower levels (below 7).
- LAYING EGGS: Waiting for a certain type of block, normally a 'Four-Long', so you can complete a Tetris.
- DIAPER: As above, but the pile is near the top of the screen and the shape needed isn't coming. So to save yourself from a sudden death you place another block in the gap in the pile. The original block you needed then shows its face in the Next Box.
- GRIM REAPER: The progression in speed on each block without moving them to commit suicide.
- CAVALRY: The same block appearing 3-4 times in a row.
- RAFTER/BRIDGE: Stacking the blocks so there is a large empty gap in the pile.
- MAFIA: Returning a Tetris to Player 2 after they've just given you one on a two-player game.
- WARHOL: Ending Game B with a Tetris.
- JAMMER: Sliding blocks into awkward positions to fit without the gaps.

REACHING FOR THE STARS: The rocket ship screen when over 100,000 points have been reached.

Have you got any neat nicknames for tactics in your favourite video games? Send them into us at the usual address. In the meantime, Jefferson Lee-Paul Boss is interested in setting up a Gameboy Fanzine. Contact him at 15 St. Peters Road, Huntingdon, Cambs PE18 7AA. Good luck with the Gamezine, Jefferson, and keep us informed.

NEC PC ENGINE PLAYING TIP

Become an invincible *Dungeon Explorer* using the passcode DEBDE
Type DEBDA, simultaneously hold down [Button I] and [Button II]. Ignore the Password Error message, press [Button II] and choose your character

ARE YOU GOOD ENOUGH?

Can you meet the Console Zone challenge? We're looking for the best video game players around. Send us your top game scores on the Megadrive, Gameboy, NES, Game Gear, Sega Master, Lynx and Neo-Geo to: Console Zone, *New Computer Express*, Future Publishing, 30 Monmouth Street, Bath, Avon BA1 2BW - or fax 0225 446019.

GAMEBOY		
Batman	424,060	Peter Worth
Super Mario Land	474,170	Jay Lee
Tetris	396,064	Peter Worth
MEGADRIVE		
Eaawt	277,900	Alex Taylor
Forgotten worlds	1,843,000	Wai-Yin Man
Ghouls'N' Ghosts	750,000	Tim Walker

NINTENDO ENTERTAINMENT SYSTEM

Data East has released a sports game with a novel twist. *Caveman Games* is set in prehistoric times - two million years BC to be precise. A conversion of a Dynamix/Electronic Arts C64 game, this one-to six-player sports-sim features six tongue-in-cheek events. *Dino-Vaulting* is not for the weak while only the fastest runners will survive the *Sabertooth Tiger Race*. *Dino Race* has you riding a two-legged dinosaur. Never play with fire, especially if you can't even get one going in the Firestarting challenge. Feminists will be appalled by the final two events: *Mate Toss* and *Clubbing* which has our hero either bashing his 'girlie' with a wooden club or throwing her around the screen.

• *The appaling sexism of neanderthal times. Things have marginally improved since then.*

PLAYING TIP

Start any *Burai Fighter* stage with these passwords:
Stage 2: BALL
Stage 3: JOKE
Stage 4: DOLL
Stage 5: PAIL
Stage 6: GOAL
Stage 7: GAME

ZONE COMMENT

What are your favourite video games? Have you found any hidden features in the latest releases? We want your views on any console gaming subject. Write without delay to the usual address.

ATARI LYNX PLAYING TIP

Nicholas Wells has sent in these handy hints to *California Games*...

- BMX: Simultaneously press [A] and [B] for a super jump.
- SURFING: Gain speed by doing small jumps, then go for a massive jump. It is possible to do five spins during a jump.
- HALFPIPE: To get 999 press [A] just as you go on the halfpipe, keep it pressed, then once your board is fully turned release it.

FOOTBAG: To get a high score simply kick up your sack then do a few spins.

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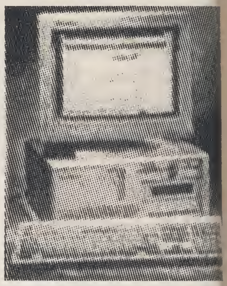

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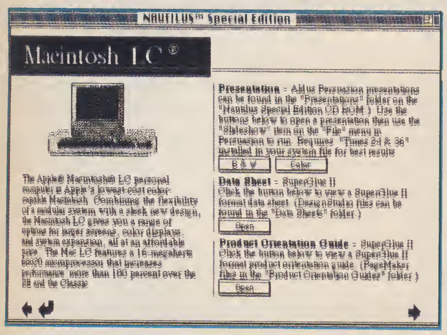
MAGICAL MULTIMEDIA

Publishing on CD-ROM is not only a possibility, but it actually works. Ian Wrigley checks out an American product which successfully puts the theory into practice.

No doubt CD-I will be fabulous when it finally arrives. But, that aside, there has not really been anything available so far which actually consolidates CD-ROM's place in the great scheme of things as a useful addition to your computer setup.

You could have all of the Microsoft programs available at once. Big deal. Or access the directory of United Kingdom Official Publications (a list of everything published and distributed by Her Majesty's Stationery Office). Wow! Apart from these mind-blowing uses, however, the CD-ROM scene has been somewhat lacking in interest. But, all this is now set to change, as an American company has produced a product which finally proves that publishing on CD-ROM is not only a possibility but actually works in practice.



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Presentation = Aldus Persuasion presentations can be found in the "Presentations" folder on the "Nautilus Special Edition CD ROM.) Use the buttons below to open a presentation then use the "Slideshow" item on the "File" menu in Persuasion to run. Requires "Times 24 & 36" installed in your system file for best results

Data Sheet = SuperGlue II
Click the button below to view a SuperGlue II format data sheet. (DesignStudio files can be found in the "Data Sheets" folder.)

Product Orientation Guide = SuperGlue II
Click the button below to view a SuperGlue II format product orientation guide. (PageMaker files in the "Product Orientation Guides" folder.)

• Mac LC: Grab from the HyperCard stacks which were shipped on the special edition disk, on the same day that the Macs were launched.

The company is called Discovery Systems and its product – *Nautilus* – is being described as "the first multimedia subscription service". Currently only available for the Macintosh (although a beta PC version is expected to be complete within four or five months), $12 a month buys you a regular multimedia magazine on a CD-ROM.

ONLY IN AMERICA...

In America, novel methods of information dissemination are commonplace: fax newspapers, for instance, are a large and growing market. But *Nautilus* is the first CD-ROM-based periodical to surface. And while other companies are now showing interest in the idea, Discovery Systems is the first to actually produce a working, saleable product.

According to Marsh Williams, the company's Vice President of Business Development, CD-ROM presents the single most cost-effective way to distribute a large volume of information. And the volume of information distributed by *Nautilus* is certainly large – the latest issue of the disk contains over 414 Megabytes of data (more than 285 floppy disks-worth).

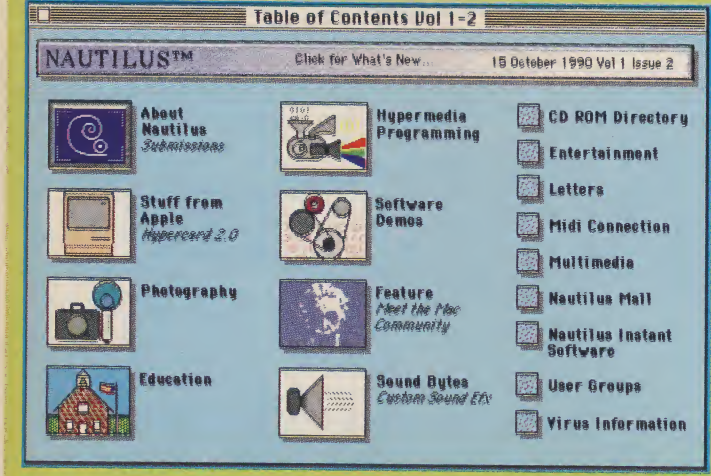
Williams says that he considers the real beauty of a system like *Nautilus* to be its interactive quality; whereas you can only read one reviewer's opinion of a product in a traditional magazine, *Nautilus* allows you to read the review and then actually try a demo version of the package. And in the future, he hopes that this idea will be taken one step further: subscribers will be able to purchase working copies of a program by just phoning the software house. In return for your credit card details, the company would provide you with a 'key', which would allow you to access a fully-featured version of the program which had been encoded on the CD-ROM.

"We don't believe in 'Shovelware' – cramming the disk as full as possible"

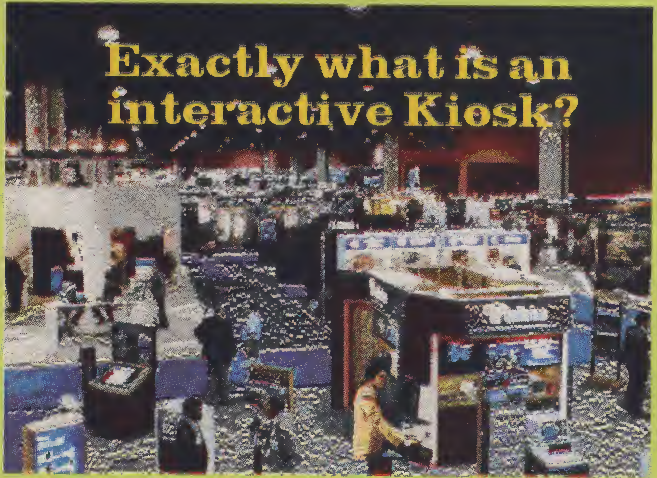
Although this is still in the development stage, it shouldn't be long before it is actually happening.

A team of seven staff produces the *Nautilus* disk each month, performing tasks like checking the software out on a range of machines (the disk will run on anything from a 2.5Mb Mac Plus upwards), finding new material for inclusion, designing title screens and writing

THE MAG ON YOUR MAC...



• The Nautilus 'contents page' - a Supercard front-end with clickable buttons which launch sub-applications. Supercard is the applications generator underpinning and cementing all 414Mbytes of the CD-ROM



• Easy - an Interactive kiosk is one of those point of sale or shop window information guides you simply push a touch pad to explore. It's an area where CD-ROM is fast replacing laserdisks.

reviews. In addition, they have a number of external, contributing 'editors' who write sections like the public domain software section, the multimedia area and so on. And all of this happens once every 28 days – with occasional extra disks thrown in. For instance, when Apple announced the new Macs on 15 October 15, a bonus *Nautilus disk* was shipped to subscribers on the same day, containing full details of the new machines.

SO WHAT DO YOU GET?

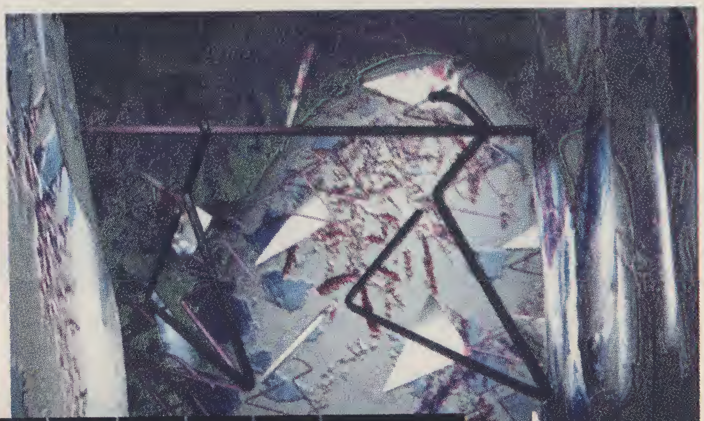
Your CD-ROM arrives in a normal envelope, with no special padding – which is a little risky for transatlantic shipping; one of our disks was broken when we received it and we had to ask for a replacement. Installation is a simple matter of putting the disk into the drive and copying the 'shell', which is what the *Nautilus* team call the main application, onto your hard disk. Then just double-click and away you go.

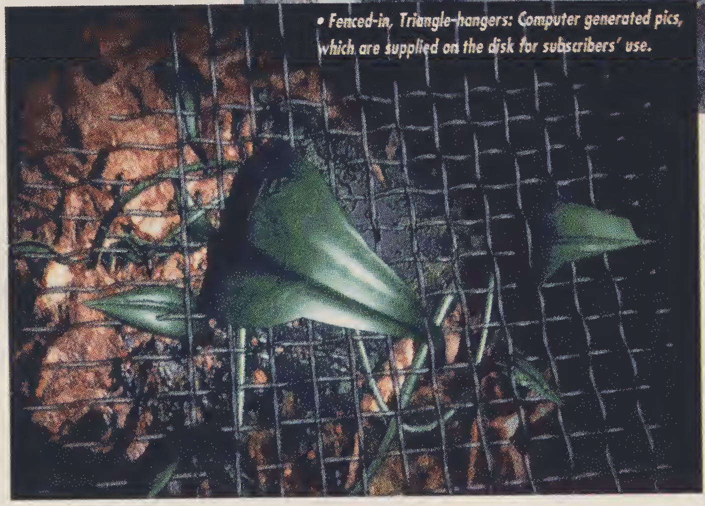
The first screen is like the contents page of a magazine; selecting any of the icons takes you to the corresponding section of the disk. Available options range from 'Stuff from Apple', which contains the latest versions of the System, Finder and so on, to full multimedia presentations. And because the CD-ROM has so much storage space, there is no limit on the sound effects or the complexity of the graphics.

The multimedia element of *Nautilus* is used to full effect throughout the publication. For instance, the letters page consists of letters to *Nautilus* displayed on-screen in the usual way. But to 'read' the replies, just click on the appropriate icon and they are spoken to you, rather than displayed. (Of course, this means that you have to be able to stomach listening to a sincere American voice for minutes on end – but then, there's no gain without pain.)

The disk is strong on the use of CD-ROM data being mixed with standard audio tracks. So, for example, on issue two there are two soft jazz pieces which play directly from the CD, while the computer displays a sequence of appropriate images (in this case mountain scenes) at the same time.

Because the disk can work under MultiFinder, you can listen to the music while you're doing something else on your machine (I'm listening to one of the jazz tracks while writing this). And on issue one, there was a ten minute version of Mendelson's Overture to Fingal's Cave, while a quiz on the composer ran on the computer. (This is, in fact, a field in which Macintosh CD-ROM is becoming prominent; a company is producing CD-ROMs which play versions of a number of classical pieces and operas, while the computer provides a running commentary. Just think – now you can read a translation of those awful Italian operas while you sit suffering listening to them!)





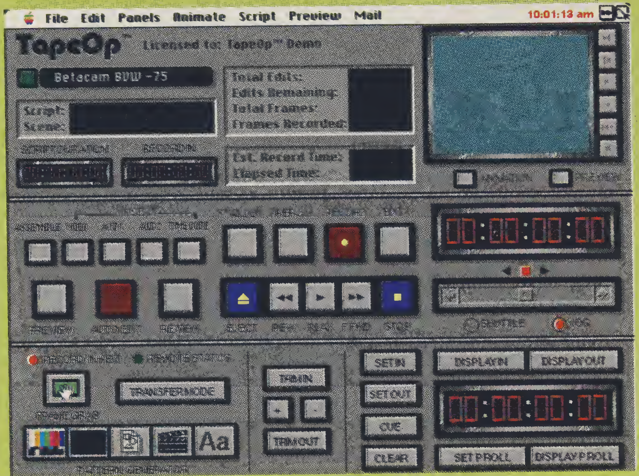
• *Fenced-in, Triangle-hangers: Computer generated pics, which are supplied on the disk for subscribers' use.*

AND WHAT OF THE FUTURE?

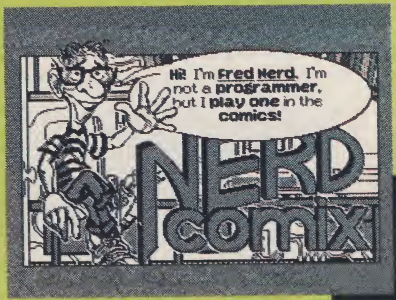
One thing which Nautilus is not trying to be is a vast collection of public-domain software. There are, says Williams, already enough people selling CD-ROMs full of PD and shareware. So instead, *Nautilus* will contain just a few selected applications, which will also be reviewed on the disk. That way, users do not have to plow through megabytes of software which won't even run on anything newer than a Mac Plus – all the software on the disk has been checked on a number of different machines. Likewise, says Williams, "We don't believe in 'Shovelware' – cramming the disk as full as possible". The team's philosophy, he says, is that they would much prefer to send out a disk with 400Mb of carefully checked material than 600Mb of haphazardly gathered-together stuff. And it's a philosophy which is obviously succeeding: so far, the company is seeing a 15-20 per cent increase in subscriptions per week, and that figure is likely to rise even faster as the product gains wider publicity.

With free programs, entertaining presentations and demonstration packages from major software houses, it's almost impossible not to find something to like on each disk – and for $149.40 for a subscription from the UK, it's hard to find a reason not to subscribe.If you have an Apple Macintosh with a CD-ROM drive and would like to try a sample copy of *Nautilus*, they will send you one free of charge. Just telephone them on 0101 614 761 4111, fax on 0101 614 761 4110, AppleLink as NAUTILUS or CompuServe 75140,2712. If you own a PC, then there is nothing available for you yet – but give it five or six months...■

THE MOVIE ON YOUR MAC...

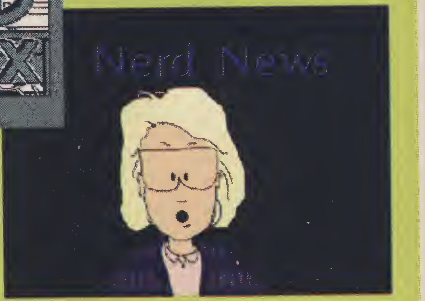


• *The TapeOp demo: a neat on-screen animation and audio editor allowing you to record your own sequences from the wealth of audio-visual material on hand.*



Hi! I'm Fred Nerd. I'm not a programmer, but I play one in the comics!
NERD comix

• *Comic factory: Just one of the demos of forthcoming commercial products*



• *A newsreader from Nerd News: Nautilus is an ideal vehicle for do-it-yourself animations.*

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CRACKING THAT

Mary Branscombe shows you how to test your code and hunt out any bugs you might encounter on the way.

Writing good code is difficult enough; writing it the first time round is even more difficult. Having planned the program and written the code, you need to fix any obvious problems and test the entire program thoroughly to find any less obvious failings. Dealing with the obvious bugs to make the code work and dealing with any problems discovered during testing require similar techniques and next week's article attempts to take some of the myth and mystique out of debugging, but even testing your code is not as easy as it might seem.

Even if you can solve the obvious problems in your code and the program gives you the right answer for the first few cases you use, it is still worth testing the code thoroughly, especially if you will not be the only user, or if you intend to extend or expand it at some later date. You must be sure that all aspects of the code do work properly and you need to devise a comprehensive set of test data to check this.

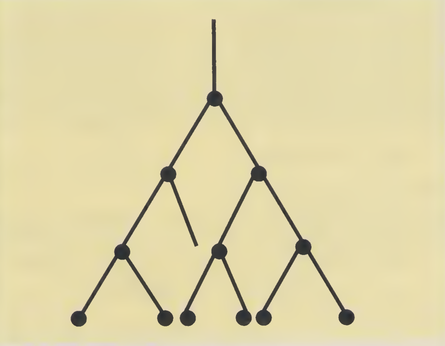
PLANNING

If a program doesn't work correctly, then this is, presumably, because the programmer didn't know about the problem. Good planning and program design should improve the reliability of programs and make problems easier to deal with. It is not enough to assume that the program works as it is designed to do; you must attempt to demonstrate that the program does not fail.

For this reason, the data used to test your program should consist of a set of inputs that are intended to make the program fail, so that you can find out what the program can't do, rather than finding out what it can do on carefully selected data.

You should test a program aggressively and put as much effort into making the program fail so that you can improve it, as you did into designing and writing the code in the first place. It may be difficult to be entirely rigourous with a program that you have worked on at any length and it is an excellent idea to entrust an alpha test version to another programmer. Once the problems discovered in this way have been dealt with, a beta test version can be given to selected users who will almost certainly try to use the program in ways you will never have envisaged.

If a program is composed of discrete modules, then these can be tested incrementally as the code is written; if all the modules produce the correct results with no unwanted side effects, then the final program should work reasonably well. Alternatively, the finished program can be tested with a set of data that tries out all the functions of all the modules once they are integrated, but this may be difficult with large programs and the modules can only be tested as they work within the full program. If a module is only used for a specific task by other modules within the program, then this is satisfactory, but if the code provides a general service like sorting or searching, then it is important to test it fully so that you can reuse it in other applications, or in an extended version of the program.



• The combined control paths in a program.

Irrelevant and impossible data will crash any program, and it is better to build a checking routine into the program to reject such input and test the program only on feasible data. The test data should take the program down as many of the possible control paths as possible.

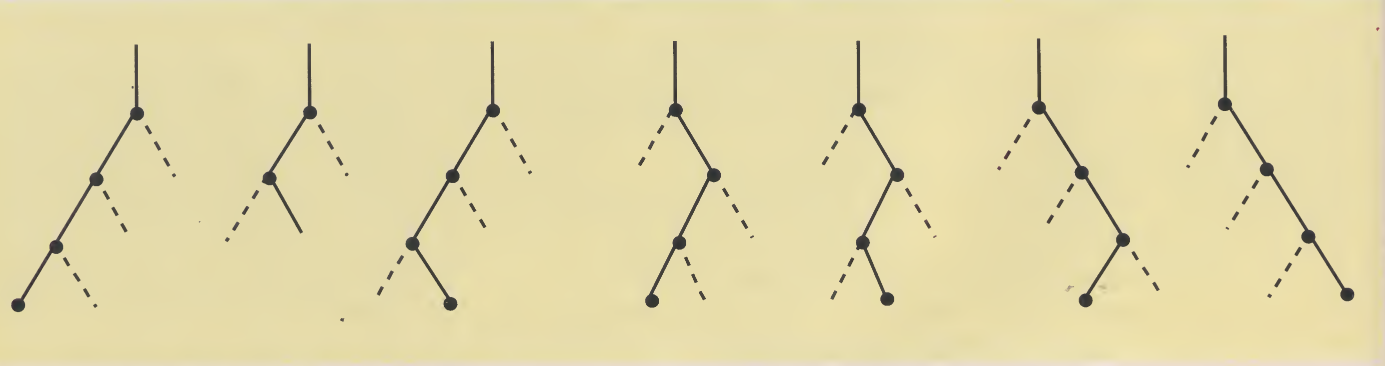
If you envisage the control flow of the program as a branching tree (see digram), the control path forks at choice points – conditional selections and loops where the next command executed is dependant on the state of the variables and constants in the code. The number of possible paths doubles at each such choice point and so it will be impossible to test all possible combinations of all control paths by hand, for programs of any reasonable size.

At the very least, you should use test data that will take the code down every path at some point. (see diagram below) It is important to test the program on exceptions, extremes and boundary cases, making the task very large, null and negative, as well as covering a range of common, reasonable situations.

AUTOMATION

Little work has been done to automate testing, although Apple Computers does use a LISP program that tests out many of the combinations of commands in approved software packages. Test data simulators and generators can be used to record a user's commands and rerun this as test data, but this still requires manual input. Static analysers are found in some environments; these check the text of the program looking for potential problems such as unused variables and unreferenced areas of code, while dynamic analysers trace the flow of control and supply some information on the structure of a program.

Once any bugs have been found and corrected then the test procedure should ideally be repeated in full. This is known as regression testing and rarely takes place in practice, but you should at least run some of the tests again, if only those that test the code that has been rewritten, and any code that depends on or accesses the corrected areas. ■



• But for effective debugging you'll need to check each of these control paths.

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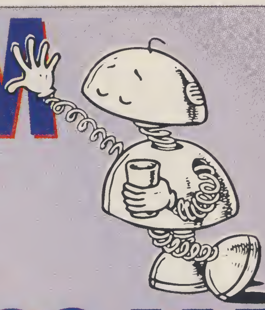

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QUESTIONS

1) Unix is. . .

a) A brand of washing powder
b) A one wheeled bike
c) The Sam Coupé's disk operating system
d) A boring old OS for workstations with more than 8-bits

2) Which sixties' surfin' sound band was responsible for the hit: "Little Deuce Coupé?"

a) Bleach Boils
b) Beech Boys
c) Beach Buoys
d) Beach Boys
e) Beetch Boyz
f) Breech Buoys
g) Led Zeppelin

3) Which of these famous pairs were known as the dynamic duo?

a) Alan Miles and Bruce Gordon
b) Roy Rogers and Trigger
c) Batman and Robin
d) Emily Bishop and Amy Turtle

4) In Twin Peaks, who killed Laura Palmer? Do you think it's...

a) Special Agent Cooper
b) The Log
c) Audrey (who, incidentally, is in the December issue of *Playboy*)
d) Irrelevant, because the inherent formal continuity transcends any bourgeois notion of conclusive narrative denouement
e) Impossible to say at this stage

5) Which Sam looks a bit like Sharon off EastEnders?

a) Sam Spade
b) Sam Eggar
c) Sam Fox
d) Sam Tramiel
e) Sam Pulls

6) What does MGT stand for?

a) Melons Give Tummy-ache
b) More Great Technology
c) Miles Gordon Technology
d) Mega Giga Thrusters
e) Metro Goldwyn Taffies
f) Manufacturer Got Totalled

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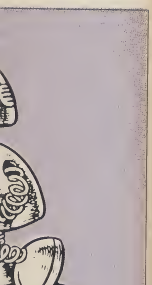

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The Commodore A500 Batman Pack must surely rank as one of the most popular computer packs ever! The pack features the **Commodore Amiga 500 computer** with **mouse controller** and **TV modulator**, plus four top software titles. The software includes: **'Batman The Movie'** - Rid Gotham City of the cunning joker, in Ocean's top selling title based on the blockbuster Batman film; **New Zealand Story** - high quality conversion of the leading arcade game; **Interceptor** - Dogfight with two F-16's in this leading flight simulator; **Deluxe Paint II** - top quality Amiga graphics package which set the standard for others to follow. Return the coupon for further details.

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